



## Workshop Manual

Audi A6 2011 ➤

Audi A6 Avant 2011 ➤

Audi A6 China 2012 ➤

Electrical system
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Edition 02.2019



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Technical information should always be available to the foremen and mechanics, because their careful and constant adherence to the instructions is essential to ensure vehicle road-worthiness and safety. In addition, the normal basic safety precautions for working on motor vehicles must, as a matter of course, be observed.



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## 00 – Technical data

### 1 Safety precautions

(ARL006273; Edition 02.2019)

⇒ [“1.1 Safety precautions when working on the high-voltage system”, page 1](#)

⇒ [“1.2 Safety precautions when working in the vicinity of high-voltage components”, page 2](#)

⇒ [“1.3 Safety precautions when working on vehicles with start/stop system”, page 2](#)

⇒ [“1.4 Safety precautions when using testers and measuring instruments during a road test”, page 2](#)

⇒ [“1.5 Safety precautions when handling gas discharge bulbs”, page 2](#)

#### 1.1 Safety precautions when working on the high-voltage system

High voltage! Danger to life!

The voltage levels in the high-voltage system constitute a safety hazard. Danger of severe or fatal injuries from electric shock.

Persons with life-sustaining or other electronic medical devices in or on their body must not perform any work on the high-voltage system. Such medical devices include internal analgesic pumps, implanted defibrillators, pacemakers, insulin pumps and hearing aids.

- Have the high-voltage system de-energised by a suitably qualified person.

Risk of injury - engine may start unexpectedly

It is difficult to know whether the drive system is active on electric and hybrid vehicles. Moving parts could trap or draw in parts of the body.

- Switch off ignition.
- Store ignition key outside of vehicle.

Risk of damage to high-voltage wires

Incorrect handling may damage the insulation of the high-voltage wires or high-voltage connectors.

- Never use high-voltage wires and high-voltage connectors as a support.
- Never use high-voltage wires and high-voltage connectors as a support for tools.
- Never bend or kink high-voltage wires.
- Note coding when joining up high-voltage connectors



## 1.2 Safety precautions when working in the vicinity of high-voltage components

High voltage! Danger to life!

The voltage levels in the high-voltage system constitute a safety hazard. Danger of severe or fatal injuries from electric shock if high-voltage components or high-voltage wiring are damaged.

- Perform a visual check of high-voltage components and high-voltage wires.
- Never use cutting/forming tools or other sharp-edged tools.
- Never perform work using welding, brazing, thermal bonding or hot air.

## 1.3 Safety precautions when working on vehicles with start/stop system

Risk of injury - engine may start unexpectedly

The engine can start unexpectedly if the vehicle's start/stop system is activated. A message in the instrument cluster indicates whether the start/stop system is activated.

- To deactivate the start/stop system, switch off the ignition.

## 1.4 Safety precautions when using testers and measuring instruments during a road test

Risk of injury if test equipment is not secured

If an accident occurs and the front passenger's airbag is triggered, test equipment which is not secured adequately may be catapulted through the vehicle with potentially serious consequences.

- Secure test equipment on the rear seat with a belt.

Or:

- Have a second person operate the test equipment on the rear seat.

## 1.5 Safety precautions when handling gas discharge bulbs

Risk of injury due to electric shock

When the headlights are switched on, the components of the gas discharge headlights marked with yellow high-voltage warning symbols are under high voltage. Touching the components may cause an electric shock.

- Never touch the components of the gas discharge headlights marked with yellow high-voltage warning symbols when the headlights are switched on.
- When performing work, switch off the ignition and all electrical equipment and store the ignition key outside the vehicle.
- Do not flash the headlights.



**Risk of injury from burns, UV radiation, glare and explosion of gas discharge headlights**

- Only operate gas discharge bulb in headlight housing.
- Do not look into the light beam.
- Avoid contact with the glass part of exploded bulbs.
- Wear safety goggles and protective gloves to remove and install gas discharge bulb.



## 2 Repair notes

⇒ ["2.1 Rules for cleanliness", page 4](#)

⇒ ["2.2 General notes", page 4](#)

⇒ ["2.3 Contact corrosion", page 4](#)

⇒ ["2.4 ESD \(electrostatic discharge\) workplace", page 4](#)

⇒ ["2.5 Routing and attaching lines and wiring", page 5](#)

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### 2.1 Rules for cleanliness

Even small quantities of dirt can lead to defects. Therefore it is important to observe the following rules for cleanliness when performing work:

- ◆ Carefully clean all connections/service apertures and surrounding areas before disconnecting/opening/releasing.
- ◆ Seal off open pipes and connections immediately with clean plugs, e.g. from engine bung set - VAS 6122- .
- ◆ Place removed parts on a clean surface and cover them. Use only lint-free cloths.
- ◆ Carefully cover or seal open components if repairs cannot be carried out immediately.
- ◆ Only install clean components; replacement parts should only be unpacked immediately prior to installation. Do not use parts that have been stored without their packaging (e.g. in toolboxes).
- ◆ Do not work with compressed air when the system is open.
- ◆ Protect unplugged electrical connectors against dirt and moisture and make sure connections are dry when attaching.

### 2.2 General notes

- ◆ For the applicable current flow diagrams, refer to ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.

### 2.3 Contact corrosion

Contact corrosion can occur if unsuitable fasteners (bolts, nuts, washers, etc.) are used.

For this reason, only fasteners with a special surface coating are fitted.

Furthermore, rubber components or plastic components and adhesives are made of non-conductive material.

Always fit new components if you are not sure that the old components are suitable ⇒ Electronic parts catalogue .

Please note:

- ◆ We recommend the use of genuine replacement parts only; they have been tested and are compatible with aluminium.
- ◆ We recommend using Audi Genuine Accessories.
- ◆ Damage caused by contact corrosion is not covered by warranty.

### 2.4 ESD (electrostatic discharge) workplace

- ◆ Requirement for cleanliness: Make sure no particles enter the headlight housing, in particular no metallic or otherwise conductive material.



- ◆ When working on the open headlight, ensure that no oil, grease, silicone or other material comes into contact with parts of the headlight. These materials can evaporate and build up a film inside the headlight.
- ◆ Do NOT touch the electronic printed circuit boards with bare hands, as this can cause migration.
- ◆ Electrostatic discharge (ESD) protection: The requirements according to DIN 613-40-5-1 must always be met when handling electronic equipment.
- ◆ Do not re-use electronic equipment (i.e. components, assemblies) which has been dropped.
- ◆ ESD (electrostatic discharge) workplace -VAS 6613- ➔ Electrical system; General information; Rep. gr. 97 ; ESD (electrostatic discharge) workplace VAS 6613 .

## 2.5 Routing and attaching lines and wiring

- ◆ To prevent mix-ups and to ensure that all components are re-installed in their original installation positions, mark components such as fuel lines, hydraulic lines, vacuum lines, activated charcoal filter system or electrical wiring before removing them. Where necessary, make sketches or take photographs.
- ◆ Because of the limited space in the engine compartment, it is important to ensure that there is adequate clearance to any moving or hot components to avoid damage to lines and wiring.



## 3 Battery

⇒ ["3.1 Battery - general notes", page 6](#)

⇒ ["3.2 Battery types", page 6](#)

### 3.1 Battery - general notes

⇒ Electrical system; General information; Rep. gr. 27 ; Battery

### 3.2 Battery types

⇒ Electrical system; General information; Rep. gr. 27 ; Battery



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## 27 – Starter, current supply, CCS

### 1 Battery

⇒ [“1.1 Exploded view - battery”, page 7](#)

⇒ [“1.2 Disconnecting and connecting battery”, page 12](#)

⇒ [“1.3 Removing and installing earth cable with battery monitor control unit J367”, page 17](#)

⇒ [“1.4 Removing and installing battery”, page 20](#)

⇒ [“1.5 Checking battery”, page 32](#)

⇒ [“1.6 Charging battery”, page 32](#)

#### 1.1 Exploded view - battery

⇒ [“1.1.1 Exploded view - battery, vehicles without high-voltage system”, page 7](#)

⇒ [“1.1.2 Exploded view - battery, vehicles with high-voltage system \(hybrid\)”, page 9](#)

⇒ [“1.1.3 Exploded view - battery, vehicles with high-voltage system \(e-tron\)”, page 11](#)

##### 1.1.1 Exploded view - battery, vehicles without high-voltage system



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1 - Retainer plate

2 - Bolt

□ 18 Nm

3 - Battery

□ Disconnecting and connecting ⇒ [page 12](#)

□ Removing and installing ⇒ [page 20](#)

4 - Bolt

5 - Nut

□ 5 Nm

6 - Main fuse holder

□ Disconnecting and connecting  
⇒ "1.4.1 Removing and installing battery - vehicles without high-voltage system", [page 20](#)

□ Exploded view  
⇒ [page 401](#)

7 - Cover for negative terminal

8 - Cover for positive terminal

9 - Retaining bracket

□ For cover for tool kit

10 - Bolt

□ 4x

□ 18 Nm

11 - Electrical wire

□ For battery monitor control unit - J367-

□ Observe correct sequence when connecting earth cable ⇒ [page 13](#)

12 - Earth cable with battery monitor control unit - J367-

□ Different versions ⇒ Electronic parts catalogue

□ Disconnecting and connecting ⇒ [page 12](#)

□ Removing and installing ⇒ [page 17](#)

13 - Nut

□ Tightening torque ⇒ Current flow diagrams, Electrical fault finding and Fitting locations

14 - Bolt

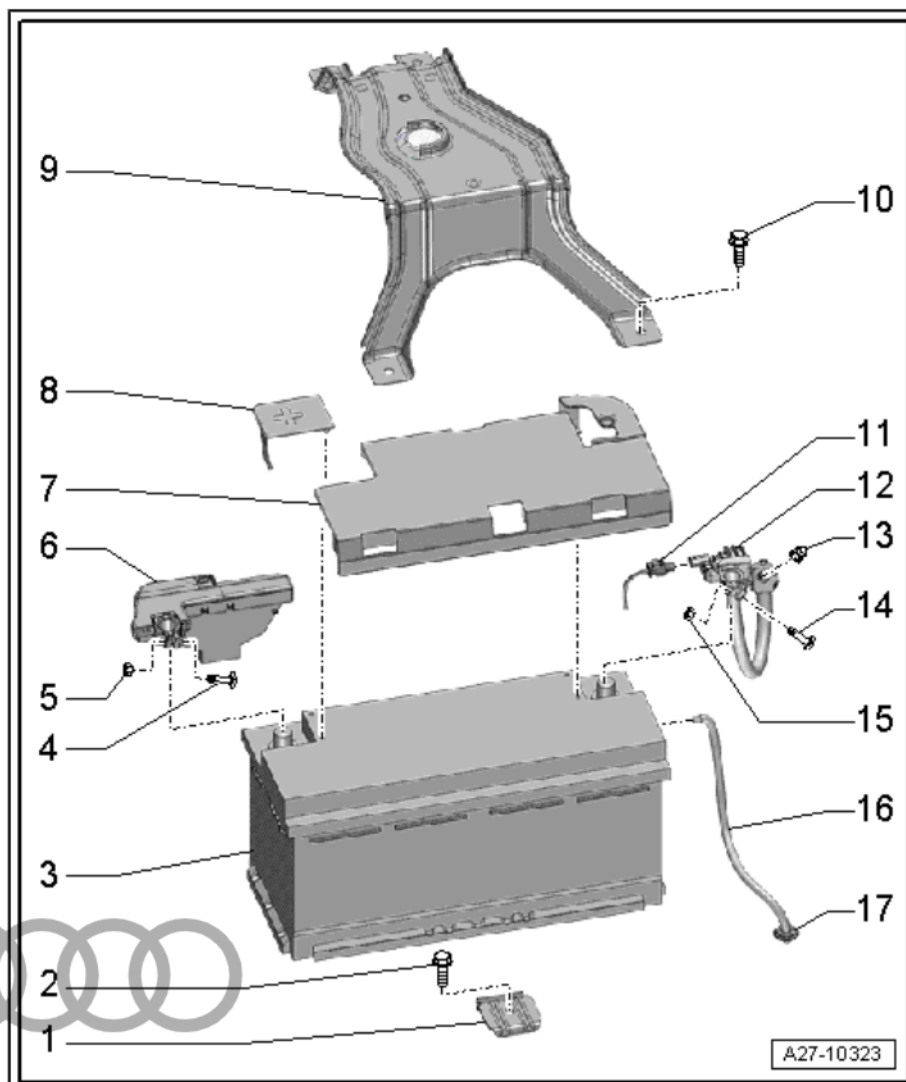
15 - Nut

□ 5 Nm

16 - Hose for central gas venting system

17 - Grommet

□ For hose for central gas venting system



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## 1.1.2 Exploded view - battery, vehicles with high-voltage system (hybrid)

Exploded view - battery - A- ➤ [page 9](#)

Exploded view - second battery - A1- ➤ [page 10](#)

Exploded view - battery - A-

1 - Retainer plate

2 - Bolt

- ☐ 18 Nm

3 - Battery - A-

- ☐ In luggage compartment in spare wheel well
- ☐ Removing and installing ➤ [page 23](#)

4 - Fuse holder A - SA-

- ☐ Disconnecting and connecting ➤ ["1.4.2 Removing and installing battery A - vehicles with high-voltage system \(hybrid\)"](#), [page 23](#)
- ☐ Removing and installing ➤ [page 432](#)

5 - Nut

- ☐ 5 Nm

6 - Cover for positive terminal

7 - Nut

- ☐ 5 Nm

8 - Electrical wire

- ☐ For battery monitor control unit - J367-
- ☐ Observe correct sequence when connecting earth cable ➤ [page 14](#)

9 - Battery bracket

10 - Bolt

- ☐ 3x
- ☐ 40 Nm

11 - Support tube

- ☐ For battery bracket

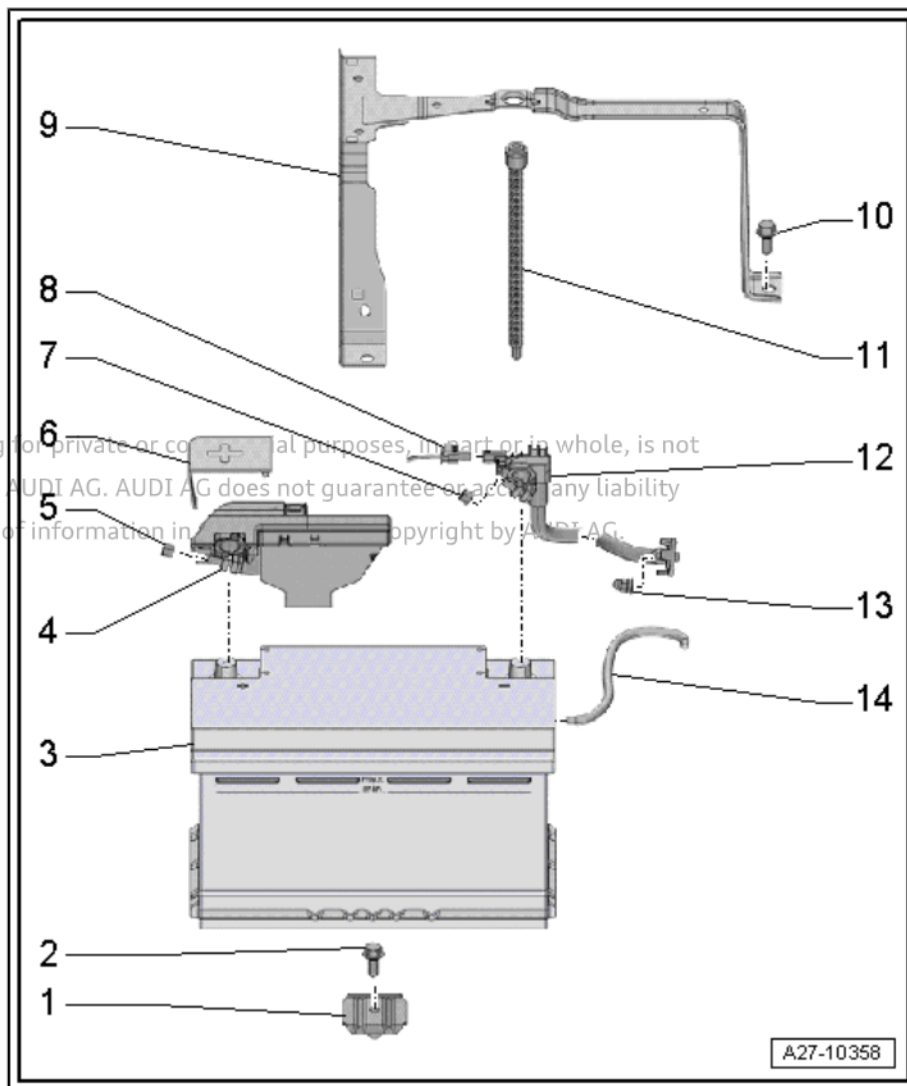
12 - Earth cable with battery monitor control unit - J367-

- ☐ Disconnecting and connecting ➤ [page 13](#)
- ☐ Removing and installing ➤ [page 18](#)

13 - Nut

- ☐ 18 Nm

14 - Hose for central gas venting system



A27-10358



## Exploded view - second battery - A1-

### 1 - Grommet

- For hose for central gas venting system

### 2 - Hose for central gas venting system

### 3 - Second battery - A1-

- Removing and installing  
⇒ [page 27](#)

### 4 - Nut

- 5 Nm

### 5 - Electrical wire

### 6 - Bolt

- 3.5 Nm

### 7 - Battery bracket

### 8 - Cover for positive terminal

### 9 - Positive wire

### 10 - Nut

- 5 Nm

### 11 - Electrical wire

- For battery monitor control unit 2 - J934-

### 12 - Earth cable with battery monitor control unit 2 - J934-

- Disconnecting and connecting  
⇒ [page 13](#)
- Removing and installing  
⇒ [page 19](#)

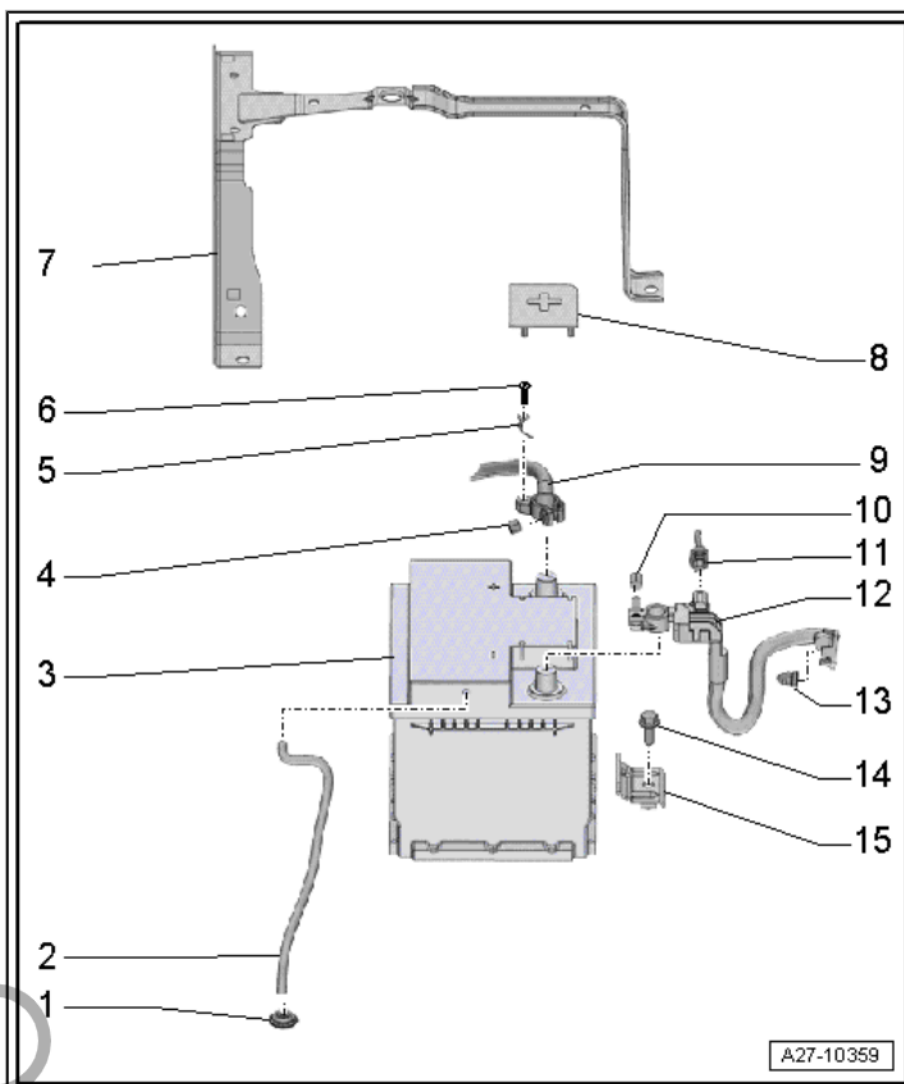
### 13 - Nut

- 18 Nm

### 14 - Bolt

- 9 Nm

### 15 - Retainer plate



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### 1.1.3 Exploded view - battery, vehicles with high-voltage system (e-tron)

1 - Grommet

- ☐ For hose for central gas venting system

2 - Hose for central gas venting system

3 - Earth cable with battery monitor control unit 2 - J934-

- ☐ Disconnecting and connecting ➔ [page 14](#)
- ☐ Removing and installing ➔ [page 19](#)
- ☐ Nut: 5 Nm

4 - Bolt

- ☐ 2x
- ☐ 10 Nm

5 - Nut

- ☐ 20 Nm

6 - Battery tray

- ☐ For second battery - A1-
- ☐ Removing and installing ➔ [page 32](#)

7 - Bolt

- ☐ 10 Nm

8 - Battery cover

9 - Battery - A-

- ☐ Removing and installing ➔ [page 25](#)

10 - Fuse holder A - SA-

- ☐ Disconnecting and connecting ➔ [page 14](#)
- ☐ Removing and installing ➔ [page 18](#)
- ☐ Nut: 5 Nm

11 - Cover for positive terminal

12 - Battery cover

13 - Earth cable with battery monitor control unit - J367-

- ☐ Disconnecting and connecting ➔ [page 14](#)
- ☐ Removing and installing ➔ [page 18](#)
- ☐ Nut: 5 Nm

14 - Nut

- ☐ 20 Nm

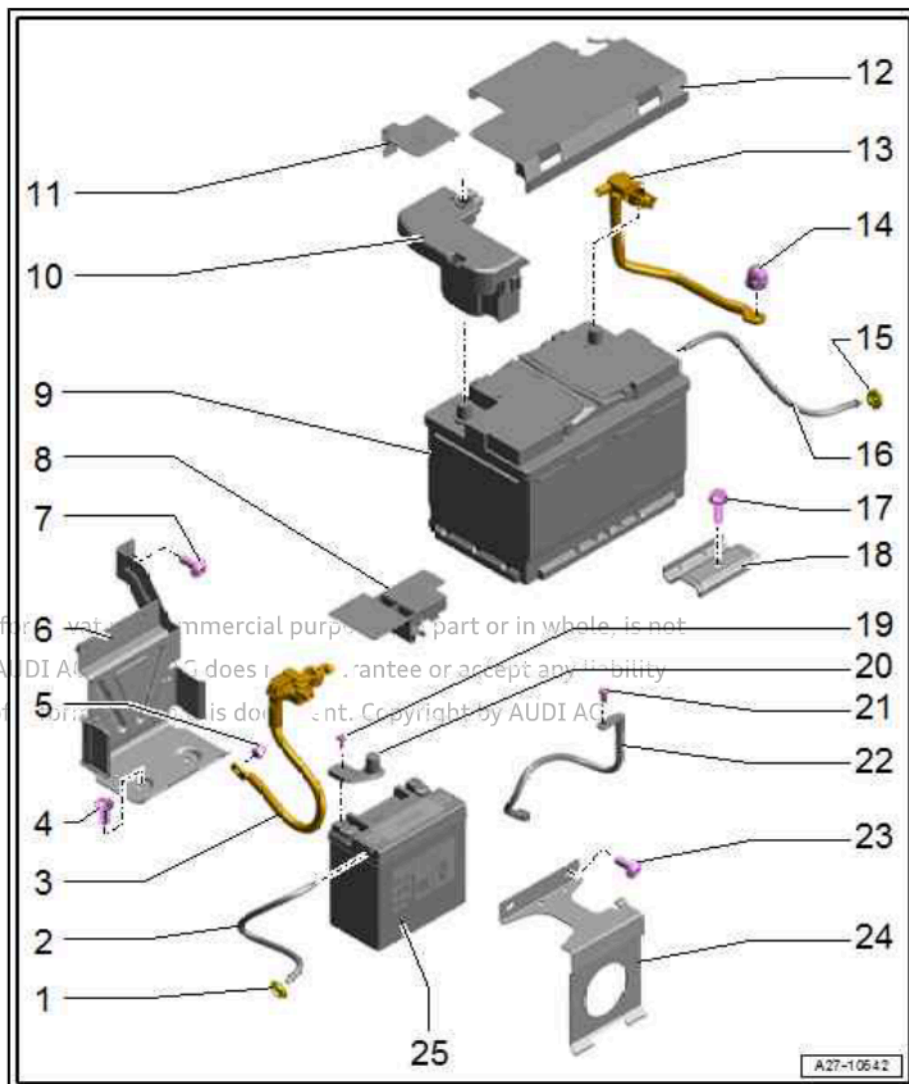
15 - Grommet

- ☐ For hose for central gas venting system

16 - Hose for central gas venting system

17 - Bolt

- ☐ 18 Nm



A27-10642



18 - Retainer plate

19 - Bolt

□ 4.5 Nm

20 - Adapter for negative battery terminal

21 - Bolt

□ 4.5 Nm

22 - Positive wire

23 - Bolt

□ 10 Nm

24 - Bracket for battery tray

□ Removing and installing

⇒ ["1.4.6 Removing and installing battery tray for second battery A1 - e-tron", page 32](#)

25 - Second battery - A1-

□ Removing and installing ⇒ [page 30](#)

## 1.2 Disconnecting and connecting battery

⇒ ["1.2.1 Disconnecting and connecting battery - vehicles without high-voltage system", page 12](#)

⇒ ["1.2.2 Disconnecting and connecting battery A and second battery A1 , vehicles with high-voltage system - hybrid", page 13](#)

⇒ ["1.2.3 Disconnecting and connecting battery A and second battery A1 , vehicles with high-voltage system - e-tron", page 14](#)

### 1.2.1 Disconnecting and connecting battery - vehicles without high-voltage system



#### Caution

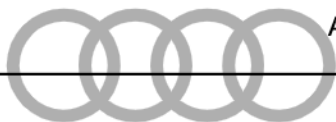
*Risk of accident.*

- ◆ *Contrary to the following description, the battery must be disconnected with the ignition SWITCHED ON when working on pyrotechnic components (e.g. airbags, belt tensioners).*

*Vehicles with TDI engine (SCR)*

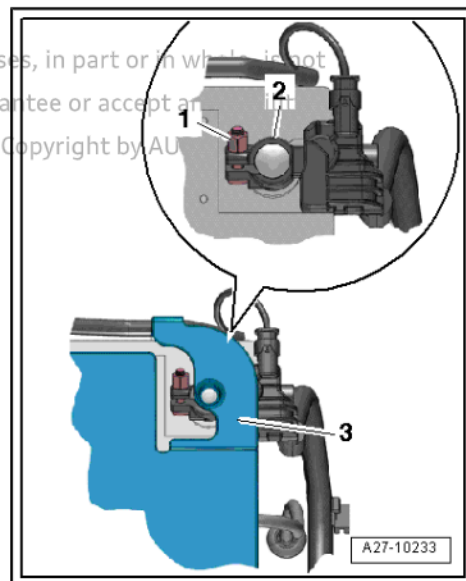
- ◆ *After the ignition is switched off, the reducing agent is automatically drawn back into the active tank for reducing agent from the metering line going to the injector for reducing agent - N474- .*
- ◆ *Before working in this area, you must therefore wait until the reducing agent has been completely drawn out of the metering line; this can take up to 10 minutes after the ignition has been switched off.*
- ◆ *For the same reason, it is important to wait until the reducing agent has been drawn back (i.e. 10 minutes) before disconnecting the battery.*





### Disconnecting

- Switch off ignition.
- Take hold of grip to lift luggage compartment floor covering and fold it towards front.
- Open cover -3- on negative battery terminal.
- Slacken off nut -1- several turns and disconnect battery clamp -2- of earth cable from battery terminal.

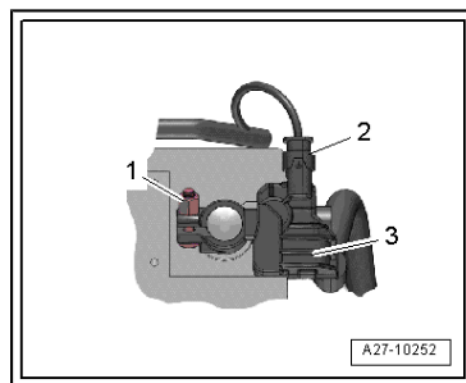


### Connecting

- Unplug electrical connector -2- at battery monitor control unit - J367- -item 3-.
- When connecting battery, attach battery clamp of earth cable to negative battery terminal “-” by hand and tighten nut -1-.
- Reconnect connector at battery monitor control unit - J367- .

The following measures are required after re-connecting the battery:

- ◆ Activate automatic open/close function of electric window regulators ➔ Owner's Manual .
- ◆ Interrogate event memories of all control units and erase “Low voltage” entry ➔ Vehicle diagnostic tester.



### Note

*After reconnecting the voltage supply, it is possible that the ESP warning lamp will not go out until the vehicle has been driven several metres.*

### Tightening torques

- ◆ ➔ [“1.1.1 Exploded view - battery, vehicles without high-voltage system”, page 7](#)

## 1.2.2 Disconnecting and connecting battery - A- and second battery - A1- , vehicles with high-voltage system - hybrid



### WARNING

- ◆ *To de-energise the 12 Volt section of the system, the battery - A- and the second battery - A1- must always be disconnected at the same time.*
- ◆ *Observe safety precautions when working on vehicles with high-voltage system ➔ [page 1](#) .*



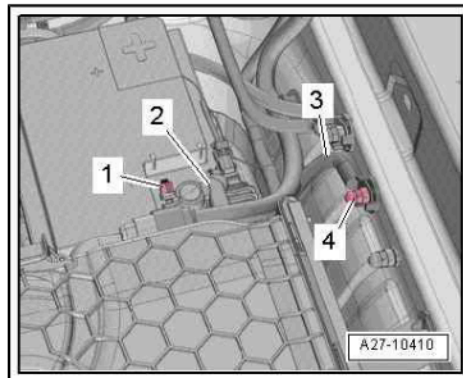
## Disconnecting

- Remove luggage compartment floor ➔ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim panels; Removing and installing luggage compartment floor .
- Unscrew nut -4- at earth point and detach earth cable -3-.



### Caution

*Earth cable connection should immediately be wrapped in insulating tape and moved to side to prevent short circuits.*



- Slacken off nut -1- several turns and disconnect battery clamp -2- of earth cable from negative battery terminal.



### Caution

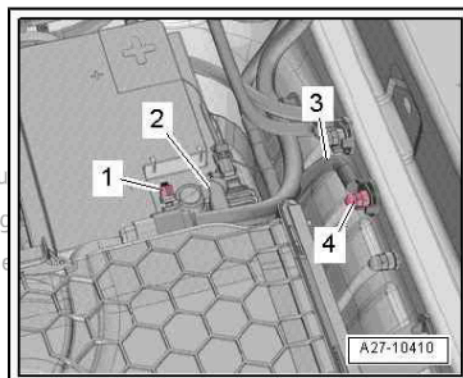
*Battery clamp of earth cable should immediately be wrapped in insulating tape and moved to side to prevent short circuits.*

## Connecting

- When connecting second battery - A1- , attach battery clamp -2- of earth cable to negative battery terminal “-” by hand and tighten nut -1-.
- Secure earth cable -3- at earth point.

The following measures are required after the batteries have been re-connected:

- ◆ Activate automatic open/close function of electric window regulators ➔ Owner's Manual .
- ◆ Interrogate event memories of all control units and erase “Low voltage” entry ➔ Vehicle diagnostic tester.



### Note

*After reconnecting the voltage supply, it is possible that the ESP warning lamp will not go out until the vehicle has been driven several metres.*

## Tightening torques

- ◆ ➔ [“1.1.2 Exploded view - battery, vehicles with high-voltage system \(hybrid\)”, page 9](#)

### 1.2.3 Disconnecting and connecting battery - A- and second battery - A1- , vehicles with high-voltage system - e-tron



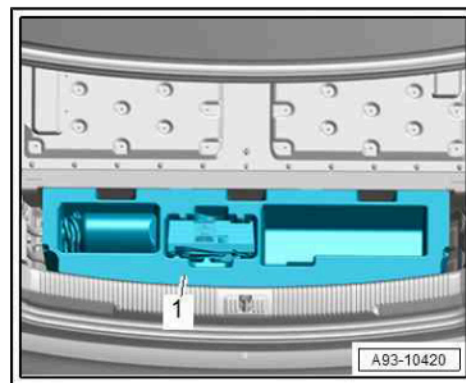
### WARNING

- ◆ *To de-energise the 12 Volt section of the system, the battery - A- and the second battery - A1- must always be disconnected at the same time.*
- ◆ *Observe safety precautions when working on vehicles with high-voltage system ➔ [page 1](#) .*

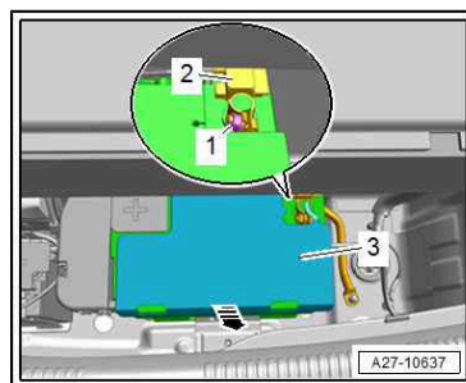


### Disconnecting

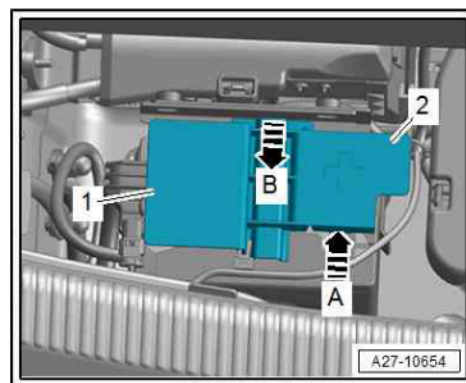
- Open flap in luggage compartment floor.
- Take out tool kit -1-.



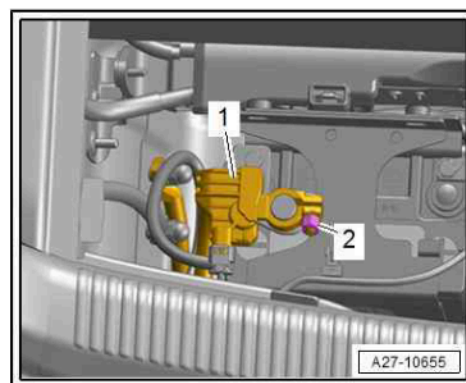
- Remove battery cover -3- above negative battery terminal; to do so, release it at side -arrow-.
- Slacken off nut -1- several turns and disconnect battery clamp -2- of earth cable from battery terminal.



- Release fastener on cover -3- above positive battery terminal -arrow-, pull off cover -1- above negative battery terminal towards rear -arrow B- and move it to one side.



- Slacken off nut -2- several turns and disconnect battery clamp -1- of earth cable from battery terminal.



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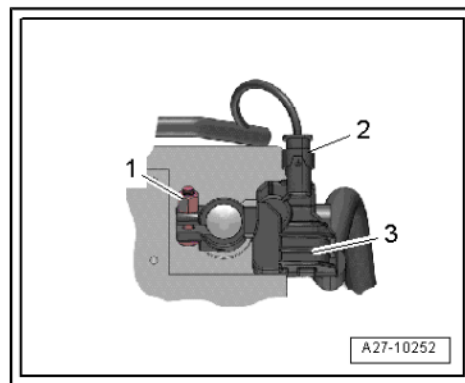


### Connecting

- Unplug electrical connector -2- at battery monitor control unit 2 - J934- / battery monitor control unit - J367- -item 3-.
- When connecting battery, attach battery clamp of earth cable to negative battery terminal “-” by hand and tighten nut -1-.
- Re-connect electrical connector.

The following measures are required after the batteries have been re-connected:

- ◆ Activate automatic open/close function of electric window regulators ⇒ Owner's Manual .
- ◆ Interrogate event memories of all control units and erase “Low voltage” entry ⇒ Vehicle diagnostic tester.



### Note

*After reconnecting the voltage supply, it is possible that the ESP warning lamp will not go out until the vehicle has been driven several metres.*

### Tightening torques

- ◆ ⇒ [“1.1.3 Exploded view - battery, vehicles with high-voltage system \(e-tron\)”, page 11](#)



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## 1.3 Removing and installing earth cable with battery monitor control unit - J367-

⇒ ["1.3.1 Removing and installing earth cable with battery monitor control unit J367 - vehicles without high-voltage system", page 17](#)

⇒ ["1.3.2 Removing and installing earth cable with battery monitor control unit J367 of battery A - vehicles with high-voltage system \(hybrid\)", page 18](#)

⇒ ["1.3.3 Removing and installing earth cable with battery monitor control unit J367 of battery A - vehicles with high-voltage system \(e-tron\)", page 18](#)

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⇒ ["1.3.4 Removing and installing earth cable with battery monitor control unit 2 J934 of second battery A1 - vehicles with high-voltage system \(hybrid\)", page 19](#)

⇒ ["1.3.5 Removing and installing earth cable with battery monitor control unit 2 J934 of second battery A1 - vehicles with high-voltage system \(e-tron\)", page 19](#)

### 1.3.1 Removing and installing earth cable with battery monitor control unit - J367- - vehicles without high-voltage system

#### Removing

- Switch off ignition.
- Take hold of grip to lift luggage compartment floor covering and fold it towards front.
- Take out tool kit.
- Remove lining for spare wheel well (if fitted) ⇒ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim panels; Removing and installing lining for spare wheel well .
- Open cover -1- on negative battery terminal.
- Slacken off nut -2- several turns and disconnect battery clamp of earth cable from negative battery terminal.
- Unplug electrical connector -3-.
- Remove nut -5- and detach earth cable -6- with battery monitor control unit - J367- -item 4-.

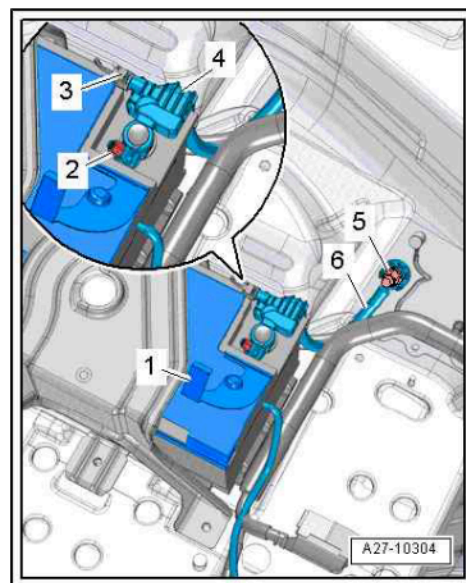
#### Installing

Installation is carried out in reverse order; note the following:

- Connect battery ⇒ [page 13](#) .

#### Tightening torques

- ◆ ⇒ ["1.1.1 Exploded view - battery, vehicles without high-voltage system", page 7](#)





### 1.3.2 Removing and installing earth cable with battery monitor control unit - J367- of battery - A- - vehicles with high-voltage system (hybrid)

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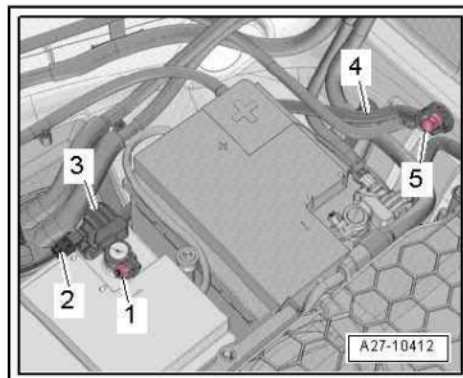


#### WARNING

Observe safety precautions when working on vehicles with high-voltage system ➔ [page 1](#) .

#### Removing

- Remove luggage compartment floor ➔ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim panels; Removing and installing luggage compartment floor .
- Remove exhaust air duct for drive battery ➔ Heating, air conditioning; Rep. gr. 87 ; Battery cooling module .
- Slacken off nut -1- several turns and disconnect battery clamp of earth cable from battery terminal.
- Unplug electrical connector -2-.
- Remove nut -5- and detach earth cable -4- with battery monitor control unit - J367- -item 3-.



#### Installing

Installation is carried out in reverse order; note the following:

- Connect battery ➔ [page 14](#) .

#### Tightening torque

- ♦ ➔ [“1.1.2 Exploded view - battery, vehicles with high-voltage system \(hybrid\)”, page 9](#)

### 1.3.3 Removing and installing earth cable with battery monitor control unit - J367- of battery - A- - vehicles with high-voltage system (e-tron)



#### WARNING

Observe safety precautions when working on vehicles with high-voltage system ➔ [page 1](#) .



#### Removing

- Disconnect earth cable from battery with ignition switched off ➔ [page 14](#) .
- Remove nut -arrow- and detach earth cable -3- with battery monitor control unit - J367- -item 1-.
- Unplug electrical connector -2-.

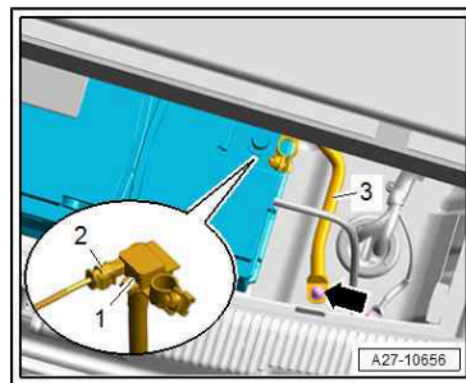
#### Installing

Installation is carried out in reverse order; note the following:

- Connect battery ➔ [page 16](#) .

#### Tightening torque

- ◆ ➔ ["1.1.3 Exploded view - battery, vehicles with high-voltage system \(e-tron\)", page 11](#)



### 1.3.4 Removing and installing earth cable with battery monitor control unit 2 - J934- of second battery - A1- - vehicles with high-voltage system (hybrid)



#### WARNING

*Observe safety precautions when working on vehicles with high-voltage system ➔ [page 1](#) .*

#### Removing

- Remove luggage compartment floor ➔ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim panels; Removing and installing luggage compartment floor .
- Slacken off nut -1- several turns and disconnect battery clamp of earth cable from battery terminal.
- Unplug electrical connector -2-.
- Remove nut -4- and detach earth cable -3- with battery monitor control unit 2 - J934- -item 5-.

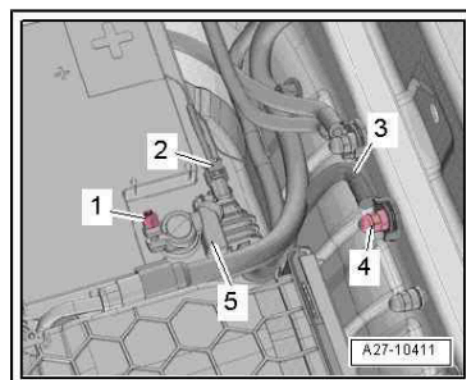
#### Installing

Installation is carried out in reverse order; note the following:

- Connect battery ➔ [page 14](#) .

#### Tightening torques

- ◆ ➔ ["1.1.2 Exploded view - battery, vehicles with high-voltage system \(hybrid\)", page 9](#)



### 1.3.5 Removing and installing earth cable with battery monitor control unit 2 - J934- of second battery - A1- - vehicles with high-voltage system (e-tron)



#### WARNING

*Observe safety precautions when working on vehicles with high-voltage system ➔ [page 1](#) .*





## Removing

- Disconnect earth cable from battery with ignition switched off  
⇒ [page 14](#) .
- Unplug electrical connector -1-.
- Remove nut -arrow- and detach earth cable -2- with battery monitor control unit 2 - J934- -item 3-.

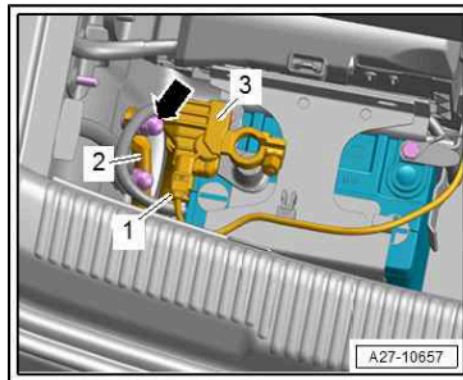
## Installing

Installation is carried out in reverse order; note the following:

- Connect battery ⇒ [page 16](#) .

## Tightening torques

- ♦ ⇒ ["1.1.3 Exploded view - battery, vehicles with high-voltage system \(e-tron\)", page 11](#)



## 1.4 Removing and installing battery

⇒ ["1.4.1 Removing and installing battery - vehicles without high-voltage system", page 20](#)

⇒ ["1.4.2 Removing and installing battery A - vehicles with high-voltage system \(hybrid\)", page 23](#)

⇒ ["1.4.3 Removing and installing battery A - vehicles with high-voltage system \(e-tron\)", page 25](#)

⇒ ["1.4.4 Removing and installing second battery A1 - vehicles with high-voltage system \(hybrid\)", page 27](#)

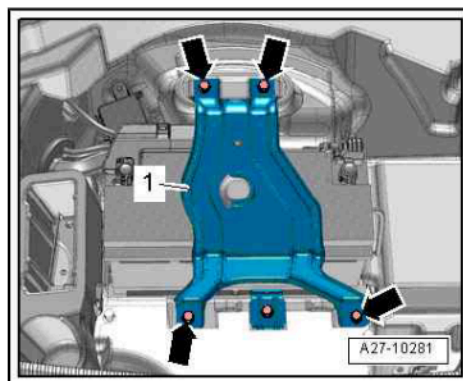
⇒ ["1.4.5 Removing and installing second battery A1 - vehicles with high-voltage system \(e-tron\)", page 30](#)

⇒ ["1.4.6 Removing and installing battery tray for second battery A1 - e-tron", page 32](#)

### 1.4.1 Removing and installing battery - vehicles without high-voltage system

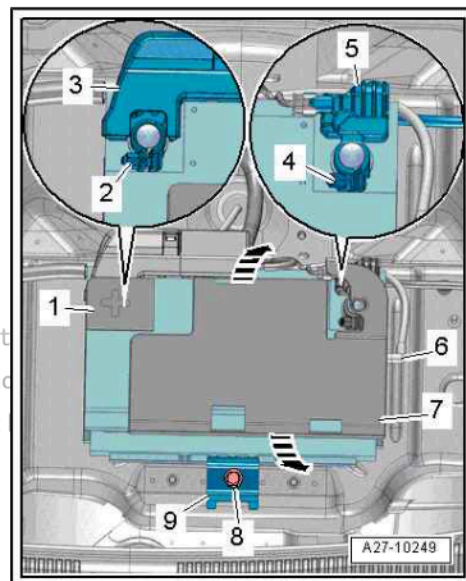
#### Removing

- Switch off ignition.
- Take hold of grip to lift luggage compartment floor covering and fold it towards front.
- If fitted, remove accumulator and move to one side (with connections attached) ⇒ Running gear, axles, steering; Rep. gr. 43 ; Air suspension; Removing and installing accumulator .
- Take out tool kit.
- Remove bolts -arrows- and detach retainer -1-.





- Disengage cover -7- for negative battery terminal at battery -arrows-.
- Slacken off nut -4- several turns and disconnect battery clamp -5- of earth cable from negative battery terminal.
- Pull off cover -1- over positive battery terminal.
- Slacken off nut -2- several turns and disconnect battery clamp -3- of positive cable together with main fuse holder from positive battery terminal.
- Pull off hose -6- for central gas venting system.
- Remove bolt -8- on battery retainer plate -9-.
- Pull battery out of battery tray and lift out of luggage compartment.



#### WARNING

*Observe environmental requirements.*

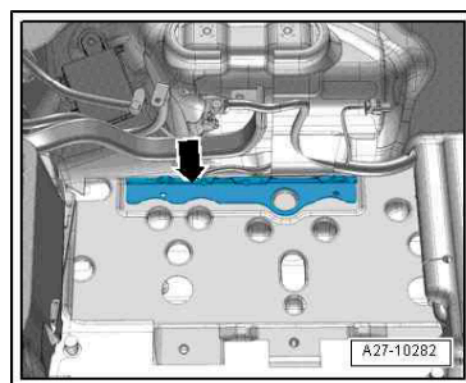
- ◆ *When disposing of used batteries, always observe the required disposal procedures for batteries and sulphuric acid ➔ Electrical system; General information; Rep. gr. 27 ; Battery .*

#### Installing



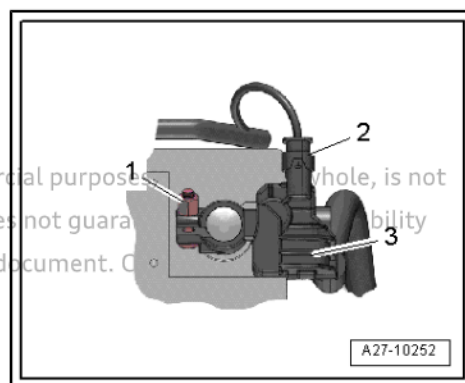
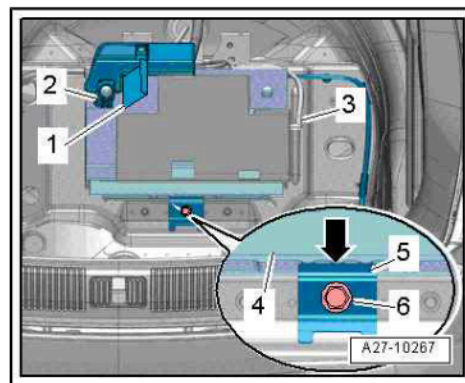
#### Note

- ◆ *Only install maintenance-free batteries with the specifications "TL82506" (from December 1997 onwards) and "VW75073" (from August 2001 onwards).*
- ◆ *Batteries from the Audi parts range feature a base strip adapter for matching to different retainer flanges. The battery operating instructions give details of when and how to use the base strip adapter.*
- Insert battery in battery tray so that battery base strip engages in retainer flanges of battery tray -arrow-.
- It should no longer be possible to move the battery.





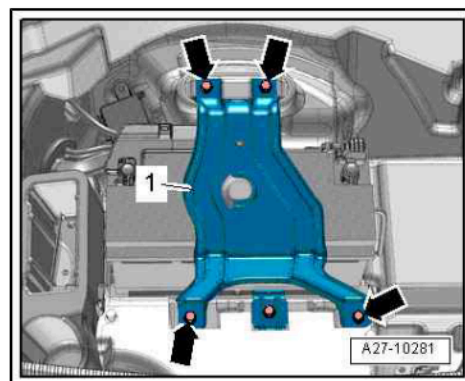
- Fit battery retainer plate -5-.
- Lug -arrow- on battery retainer plate must engage in recess in battery base strip -4-.
- Tighten bolt -6- for battery retainer plate.
- Connect hose -3- for central gas venting system. Observe notes in ➤ Electrical system; General information; Rep. gr. 27 ; Battery .
- Connect up battery in the following sequence with ignition and electrical equipment switched off:
- First connect battery clamp -2- of positive cable by hand to positive battery terminal "+" and tighten nut.
- Close cover -1- over positive battery terminal.
- Unplug electrical connector -2- at battery monitor control unit - J367- -item 3-.
- Attach battery clamp of earth cable to negative battery terminal "-" by hand and tighten nut -1-.
- Reconnect connector at battery monitor control unit - J367-.
- After installation, check that battery is firmly secured ➤ Electrical system; General information; Rep. gr. 27 ; Battery .



- Fit cover for negative battery terminal on battery.
- Fit retainer -1- and tighten bolts -arrows-.
- After renewing the battery, it must be adapted in "Guided Fault Finding" or "Guided Functions" mode ➤ Vehicle diagnostic tester.

The following measures are required after re-connecting the battery:

- ◆ Activate automatic open/close function of electric window regulators ➤ Owner's Manual .
- ◆ Interrogate event memories of all control units and erase "Low voltage" entry ➤ Vehicle diagnostic tester.



#### Note

*After reconnecting the voltage supply, it is possible that the ESP warning lamp will not go out until the vehicle has been driven several metres.*

#### Tightening torques

- ◆ ➤ ["1.1.1 Exploded view - battery, vehicles without high-voltage system", page 7](#)





## 1.4.2 Removing and installing battery - A - vehicles with high-voltage system (hybrid)



### WARNING

Observe safety precautions when working on vehicles with high-voltage system ➔ [page 1](#) .

### Removing

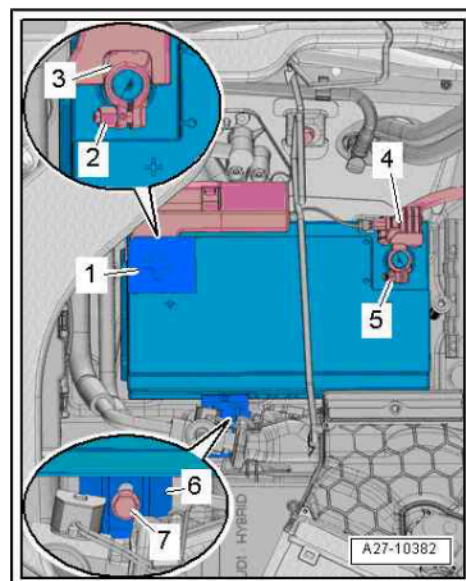
- Remove second battery - A1- ➔ [page 27](#) .
- Slacken off nut -5- several turns and disconnect battery clamp -4- of earth cable from battery terminal.
- Open cover -1- on positive battery terminal.
- Slacken off nut -2- several turns and disconnect battery clamp -3- of positive cable together with fuse holder A - SA- from battery terminal.
- Remove bolt -7- on battery retainer plate -6-.
- Lift battery out of luggage compartment.



### WARNING

Observe environmental requirements.

- ◆ *When disposing of used batteries, always observe the required disposal procedures for batteries and sulphuric acid ➔ Electrical system; General information; Rep. gr. 27 ; Battery .*



### Installing

Installation is carried out in reverse order; note the following:



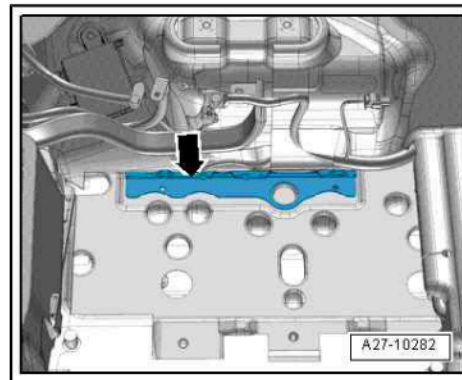
### Note

- ◆ *Only install maintenance-free batteries with the specifications "TL82506" (from December 1997 onwards) and "VW75073" (from August 2001 onwards).*
- ◆ *Batteries from the Audi parts range feature a base strip adapter for matching to different retainer flanges. The battery operating instructions give details of when and how to use the base strip adapter.*

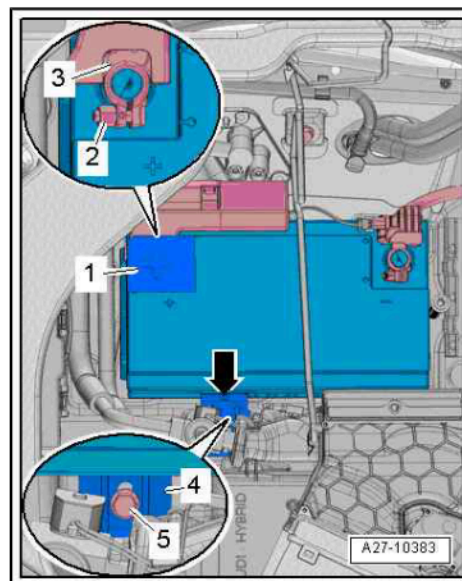




- Insert battery in battery tray so that battery base strip engages in retainer flanges of battery tray -arrow-.
- It should no longer be possible to move the battery.



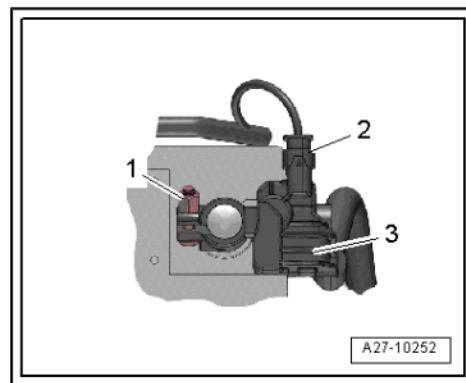
- Fit battery retainer plate -4-.
- Lug -arrow- on battery retainer plate must engage in recess in battery base strip.
- Tighten bolt -5- for battery retainer plate.
- Connect hose for central gas venting system. Observe notes in ⇒ Electrical system; General information; Rep. gr. 27 ; Battery .
- Connect up battery in the following sequence with ignition and electrical equipment switched off:
- First connect battery clamp -3- of positive cable by hand to positive battery terminal "+" and tighten nut -2-.
- Close cover -1- over positive battery terminal.



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- Unplug electrical connector -2- at battery monitor control unit - J367- -item 3-.
- Attach battery clamp of earth cable to negative battery terminal “-” by hand and tighten nut -1-.
- Reconnect connector at battery monitor control unit - J367- .
- After installation, check that battery is firmly secured ⇒ Electrical system; General information; Rep. gr. 27 ; Battery .
- Install second battery - A1- ⇒ [page 27](#) .
- After renewing the battery, it must be adapted in “Guided Fault Finding” or “Guided Functions” mode ⇒ Vehicle diagnostic tester.



The following measures are required after re-connecting the battery:

- ◆ Activate automatic open/close function of electric window regulators ⇒ Owner's Manual .
- ◆ Interrogate event memories of all control units and erase “Low voltage” entry ⇒ Vehicle diagnostic tester.



Note

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*After reconnecting the voltage supply, it is possible that the ESP warning lamp will not go out until the vehicle has been driven several metres.*

Tightening torques

- ◆ ⇒ [“1.1.2 Exploded view - battery, vehicles with high-voltage system \(hybrid\)”, page 9](#)

### 1.4.3 Removing and installing battery - A- - vehicles with high-voltage system (e-tron)



WARNING

*Observe safety precautions when working on vehicles with high-voltage system ⇒ [page 1](#) .*



## Removing

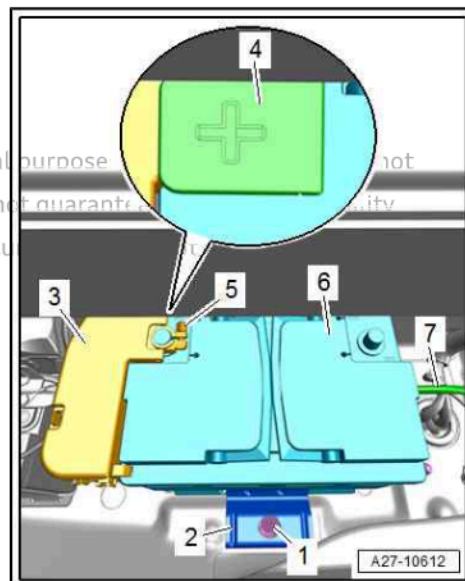
- Disconnect earth cable from battery with ignition switched off  
⇒ [page 14](#) .
- Open cover -4- on positive battery terminal.
- Slacken off nut -5- several turns and disconnect battery clamp -3- of positive cable together with fuse holder A - SA- from battery terminal.
- Pull off hose -7- for central gas venting system.
- Remove bolt -1- on battery retainer plate -2-.
- Lift battery -6- out of luggage compartment.



### WARNING

*Observe environmental requirements.*

- ◆ *When disposing of used batteries, always observe the required disposal procedures for batteries and sulphuric acid ⇒ Electrical system; General information; Rep. gr. 27 ; Battery .*



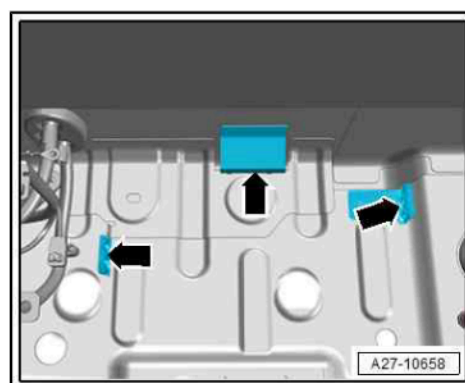
## Installing

Installation is carried out in reverse order; note the following:



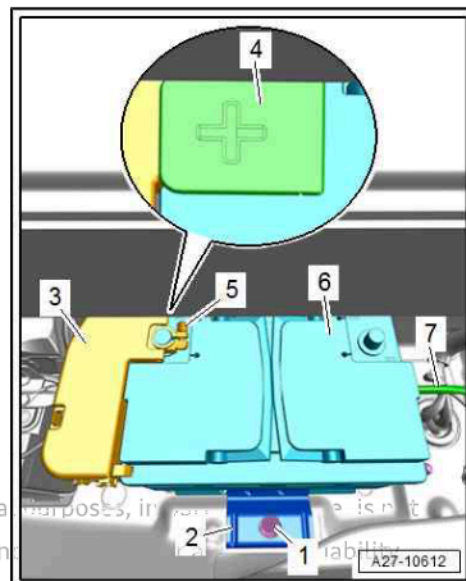
### Note

- ◆ *Only install maintenance-free batteries with the specifications "TL82506" (from December 1997 onwards) and "VW75073" (from August 2001 onwards).*
- ◆ *Batteries from the Audi parts range feature a base strip adapter for matching to different retainer flanges. The battery operating instructions give details of when and how to use the base strip adapter.*
- Insert battery in battery tray so that battery base strip engages in retainer flanges -arrows- of battery tray.
- It should no longer be possible to move the battery.





- Fit battery retainer plate -2-.
- Lug on battery retainer plate must engage in recess on battery base strip.
- Tighten bolt -1- for battery retainer plate.
- Connect hose -7- for central gas venting system. Observe notes in ⇒ Electrical system; General information; Rep. gr. 27 ; Battery .
- Connect up battery in the following sequence with ignition and electrical equipment switched off:
- First connect battery clamp -3- of positive cable by hand to positive battery terminal "+" and tighten nut -5-.
- Close cover -4- over positive battery terminal.
- Connect battery ⇒ [page 16](#) .
- After installation, check that battery is firmly secured ⇒ Electrical system; General information; Rep. gr. 27 ; Battery .
- After renewing the battery, it must be adapted in "Guided Fault Finding" or "Guided Functions" mode ⇒ Vehicle diagnostic tester.



The following measures are required after re-connecting the battery:

- ◆ Activate automatic open/close function of electric window regulators ⇒ Owner's Manual .
- ◆ Interrogate event memories of all control units and erase "Low voltage" entry ⇒ Vehicle diagnostic tester.



#### Note

*After reconnecting the voltage supply, it is possible that the ESP warning lamp will not go out until the vehicle has been driven several metres.*

#### Tightening torques

- ◆ ⇒ ["1.1.3 Exploded view - battery, vehicles with high-voltage system \(e-tron\)", page 11](#)

### 1.4.4 Removing and installing second battery - A1- - vehicles with high-voltage system (hybrid)



#### WARNING

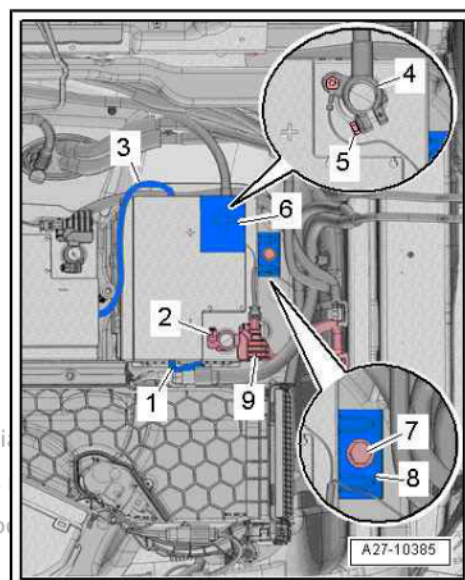
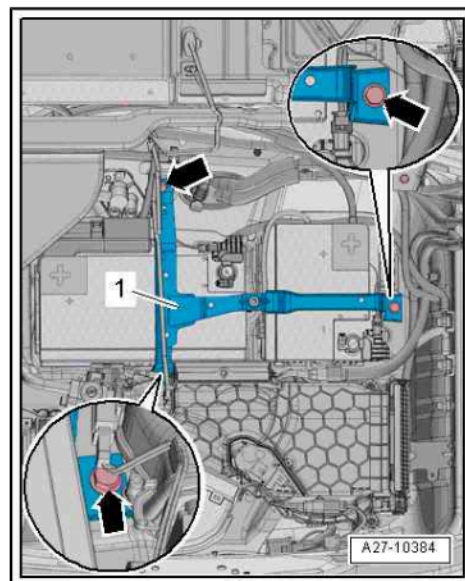
*Observe safety precautions when working on vehicles with high-voltage system ⇒ [page 1](#) .*





## Removing

- Remove luggage compartment floor ➔ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim panels; Removing and installing luggage compartment floor .
  - Remove exhaust air duct for drive battery ➔ Heating, air conditioning; Rep. gr. 87 ; Battery cooling module .
  - Remove bolts -arrows-.
  - Detach bracket -1-.
- 
- Slacken off nut -2- several turns and disconnect battery clamp -9- of earth cable from battery terminal.
  - Open cover -6- on positive battery terminal.
  - Slacken off nut -5- several turns and disconnect battery clamp -4- of positive cable from battery terminal.
  - Pull off hoses -1, 3- for central gas venting system.
  - Remove bolt -7- on battery retainer plate -8-.
  - Lift battery out of luggage compartment.



## WARNING

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- ◆ When disposing of used batteries, always observe the required disposal procedures for batteries and sulphuric acid ➔ Electrical system; General information; Rep. gr. 27 ; Battery .

## Installing

Installation is carried out in reverse order; note the following:



## Note

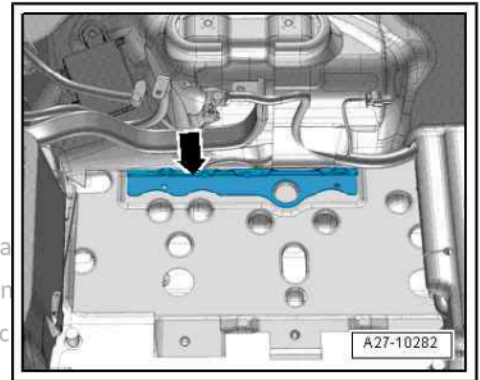
- ◆ Only install maintenance-free batteries with the specifications "TL82506" (from December 1997 onwards) and "VW75073" (from August 2001 onwards).
- ◆ Batteries from the Audi parts range feature a base strip adapter for matching to different retainer flanges. The battery operating instructions give details of when and how to use the base strip adapter.



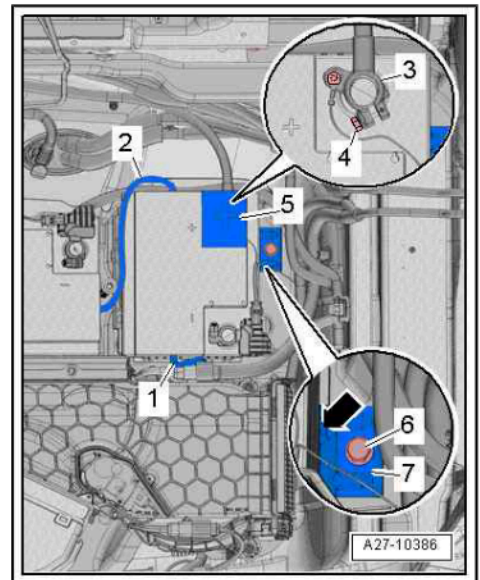
- Insert battery in battery tray so that battery base strip engages in retainer flanges of battery tray -arrow-.
- It should no longer be possible to move the battery.



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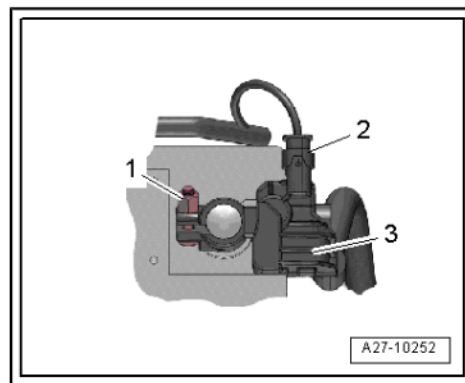


- Fit battery retainer plate -7-.
- Lug -arrow- on battery retainer plate must engage in recess in battery base strip.
- Tighten bolt -6- for battery retainer plate.
- Connect hoses -1, 2- for central gas venting system. Observe notes in ⇒ Electrical system; General information; Rep. gr. 27 ; Battery .
- Connect up battery in the following sequence with ignition and electrical equipment switched off:
- First connect battery clamp -3- of positive cable by hand to positive battery terminal "+" and tighten nut -4-.
- Close cover -5- over positive battery terminal.





- Unplug electrical connector -2- at battery monitor control unit 2 - J934- -item 3-.
- Attach battery clamp of earth cable to negative battery terminal “-” by hand and tighten nut -1-.
- Reconnect connector at battery monitor control unit 2 - J934- .
- After installation, check that battery is firmly secured ⇒ Electrical system; General information; Rep. gr. 27 ; Battery .
- Install second battery - A1- ⇒ [page 27](#) .
- After renewing the battery, it must be adapted in “Guided Fault Finding” or “Guided Functions” mode ⇒ Vehicle diagnostic tester.



The following measures are required after re-connecting the battery:

- ◆ Activate automatic open/close function of electric window regulators ⇒ Owner's Manual .
- ◆ Interrogate event memories of all control units and erase “Low voltage” entry ⇒ Vehicle diagnostic tester.



#### Note

*After reconnecting the voltage supply, it is possible that the ESP warning lamp will not go out until the vehicle has been driven several metres.*

#### Tightening torques

- ◆ ⇒ [“1.1.2 Exploded view - battery, vehicles with high-voltage system \(hybrid\)”, page 9](#)

### 1.4.5 Removing and installing second battery - A1- - vehicles with high-voltage system (e-tron)



#### WARNING

*Observe safety precautions when working on vehicles with high-voltage system ⇒ [page 1](#) .*



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## Removing

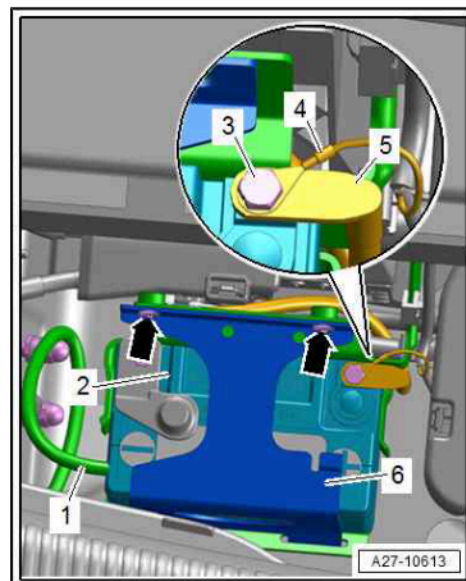
- Disconnect earth cable from battery with ignition switched off  
⇒ [page 14](#) .
- Remove bolt -3-, disconnect positive wire -5- and electrical wire -4- from battery terminal and move them to one side.
- Remove bolts -arrows-.
- Disengage and detach bracket for battery tray -6- from battery tray by pivoting it towards rear.
- Pull off hose -1- for central gas venting system.
- Lift battery -2- out of luggage compartment.



### WARNING

*Observe environmental requirements.*

- ◆ *When disposing of used batteries, always observe the required disposal procedures for batteries and sulphuric acid ⇒ [Electrical system](#); [General information](#); [Rep. gr. 27](#) ; [Battery](#) .*



## Installing

Installation is carried out in reverse order; note the following:



### Note

- ◆ *Only install maintenance-free batteries with the specifications "TL82506" (from December 1997 onwards) and "VW75073" (from August 2001 onwards).*
- ◆ *Batteries from the Audi parts range feature a base strip adapter for matching to different retainer flanges. The battery operating instructions give details of when and how to use the base strip adapter.*
- Fit battery in battery tray.
- It should no longer be possible to move the battery.
- Connect hose for central gas venting system. Observe notes in ⇒ [Electrical system](#); [General information](#); [Rep. gr. 27](#) ; [Battery](#) .
- Connect battery ⇒ [page 16](#) .
- After renewing the battery, it must be adapted in "Guided Fault Finding" or "Guided Functions" mode ⇒ [Vehicle diagnostic tester](#).

The following measures are required after re-connecting the battery:

- ◆ *Activate automatic open/close function of electric window regulators ⇒ [Owner's Manual](#) .*
- ◆ *Interrogate event memories of all control units and erase "Low voltage" entry ⇒ [Vehicle diagnostic tester](#).*



#### Note

After reconnecting the voltage supply, it is possible that the ESP warning lamp will not go out until the vehicle has been driven several metres.

#### Tightening torques

- ⇒ ["1.1.3 Exploded view - battery, vehicles with high-voltage system \(e-tron\)", page 11](#)

### 1.4.6 Removing and installing battery tray for second battery - A1- - e-tron



#### WARNING

Observe safety precautions when working on vehicles with high-voltage system ⇒ [page 1](#) .

#### Removing

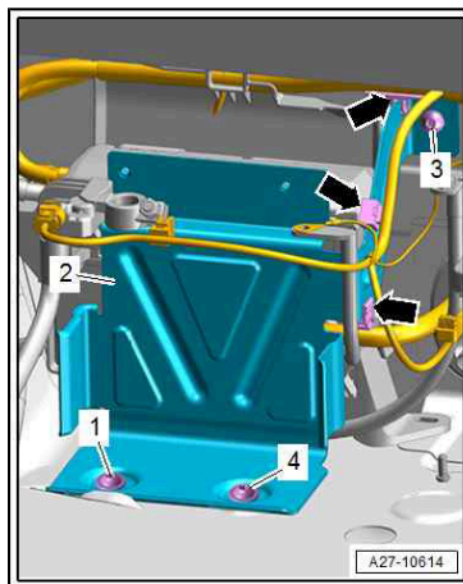
- Remove second battery ⇒ [page 30](#) .
- Move electrical wiring harness and positive wire clear -arrows-.
- Remove bolts -1, 3, 4-.
- Take battery tray -2- out upwards.

#### Installing

Installation is carried out in reverse order; note the following:

#### Tightening torques

- ⇒ ["1.1.3 Exploded view - battery, vehicles with high-voltage system \(e-tron\)", page 11](#)



### 1.5 Checking battery

⇒ Electrical system; General information; Rep. gr. 27 ; Checking battery

### 1.6 Charging battery

#### Procedure



#### WARNING

**Risk of explosion due to a discharged battery with "magic eye".**

- **The battery must NOT be checked or charged if the "magic eye" indicator is colourless or yellow. Do not attempt to jump-start the vehicle! There is a danger of explosion if you test or charge the battery or jump-start the vehicle! The battery must be renewed.**



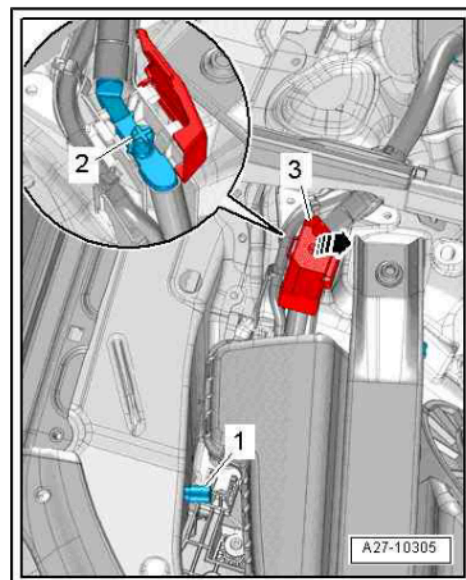
Before connecting battery charger, it is necessary to perform the following steps:



#### Note

*Wherever possible, the battery should be installed in the vehicle and connected while it is being charged. Otherwise, the charging current will not be taken into account in the capacity calculation of the battery monitor control unit - J367- .*

- Switch off ignition and all electrical equipment.
- Release cover -3- and swivel to the side -arrow-.
- Connect red clamp "+" of battery charger to remote positive terminal -2- and black clamp "-" to remote earth terminal -1-.
- Plug in mains connector of battery charger and switch on battery charger ⇒ Electrical system; General information; Rep. gr. 27 ; Charging battery .
- Leave rear lid open during charging.



## 1.7 Removing and installing battery cut-off relay/battery isolation igniter

Battery isolation igniter - N253- must be renewed if defective or if it has been triggered.

- Removing and installing battery isolation igniter - N253- ⇒ General body repairs, interior; Rep. gr. 69 ; Battery isolation igniter; Removing and installing battery isolation igniter

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## 2 Jump-start terminal

⇒ "2.1 Exploded view - jump-start terminal", page 34

⇒ "2.2 Removing and installing jump-start terminal", page 35

### 2.1 Exploded view - jump-start terminal

#### 1 - Wire retainer

- ☐ 2x

#### 2 - Nut

- ☐ For bracket for wiring harness
- ☐ 40 Nm

#### 3 - Nut

- ☐ Tightening torque  
⇒ Current flow diagrams, Electrical fault finding and Fitting locations

#### 4 - Wiring guide

- ☐ With retainer

#### 5 - Jump start socket - U6-

- ☐ Remote positive terminal with wiring harness
- ☐ Removing and installing  
⇒ [page 35](#)

#### 6 - Mounting

- ☐ For jump start socket - U6-
- ☐ Removing and installing  
⇒ [page 37](#)

#### 7 - Bolt

- ☐ 2x
- ☐ 4 Nm

#### 8 - Cover

- ☐ For wiring harness

#### 9 - Terminal 30 wiring junction - TV2-

- ☐ Exploded view ⇒ [page 420](#)

#### 10 - Jump-start connection

- ☐ Remote negative terminal of battery
- ☐ 9 Nm

#### 11 - Terminal B+

- ☐ To starter

#### 12 - Electrical connector

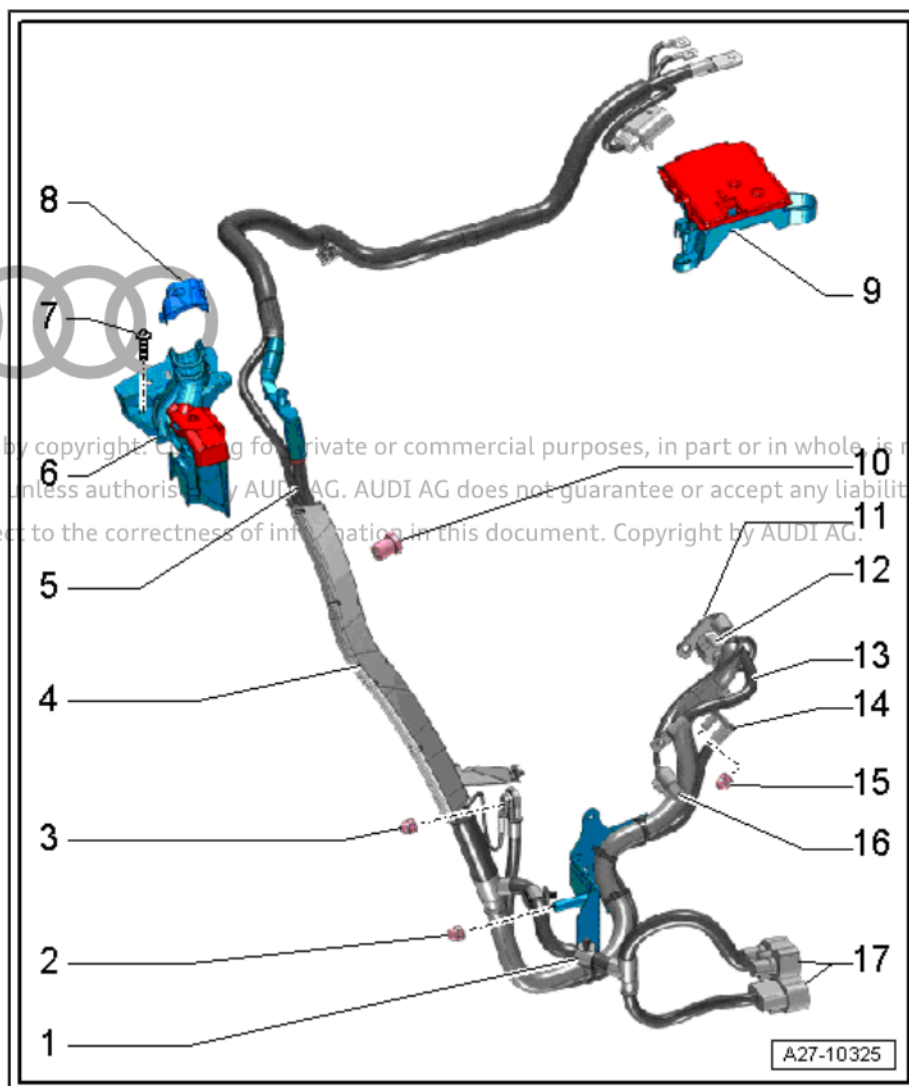
- ☐ To starter

#### 13 - Terminal 30/B+

- ☐ To alternator

#### 14 - Earth cable

- ☐ To engine support







## 15 - Nut

- ❑ Tightening torque ⇒ Current flow diagrams, Electrical fault finding and Fitting locations

## 16 - Electrical connector

- ❑ To alternator

## 17 - Electrical connectors

- ❑ To radiator fan(s)

## 2.2 Removing and installing jump-start terminal

⇒ "2.2.1 Removing and installing jump start socket U6 ",  
page 35

⇒ "2.2.2 Removing and installing mounting for jump start socket  
U6 ", page 37

### 2.2.1 Removing and installing jump start socket - U6-

#### Removing

- Disconnect earth cable from battery with ignition switched off  
⇒ page 12 .
- Remove engine mounting (right-side) ⇒ Rep. gr. 10 ; Assembly  
mountings; Removing and installing engine mountings .
- Remove nut -1- and move earth cable clear at engine support.
- Remove bolts -arrows- and detach engine support (right-side).



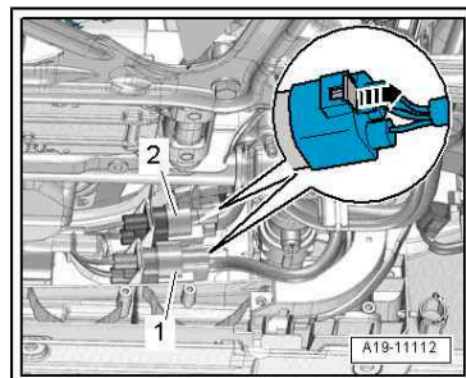
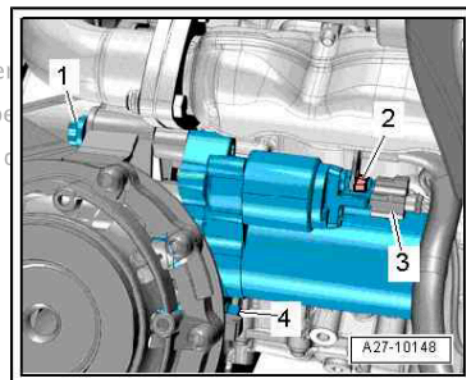
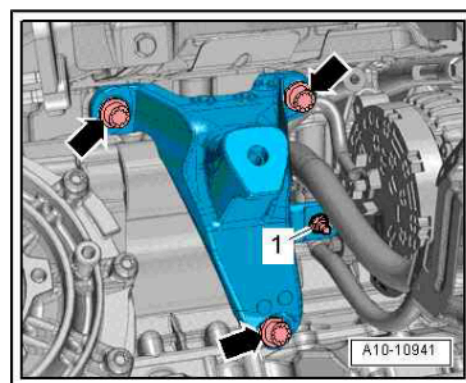
- Unplug connector -3- on starter (slide locking element towards  
rear and press down release catch).
- Unscrew nut -2- and detach B+ wire from solenoid switch.



#### Note

- ◆ Disregard items -1 and 4-.
- ◆ Illustration shows 3.0 ltr. TFSI engine.

- Unplug electrical connectors -1- and -2- for radiator fan (slide  
locking element towards rear -arrow- and press down release  
catch).

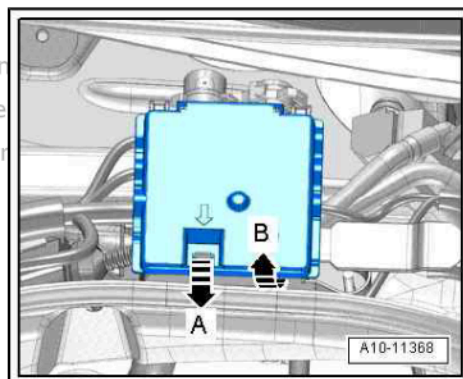
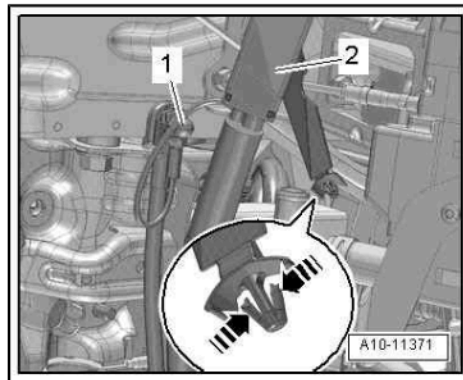




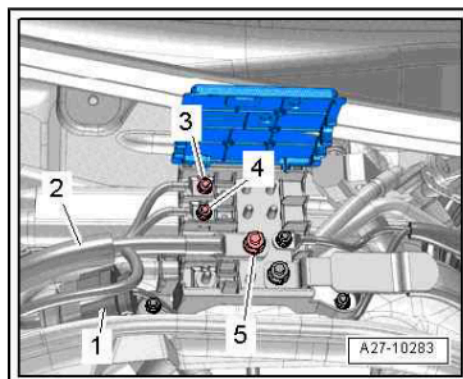
- Release fasteners -arrows- and move clear wiring guide -2-.
- Remove cap nut -1- and move clear earth cables.



- Remove body brace ⇒ Running gear, axles, steering; Rep. gr. 40 ; Suspension strut, upper links; Removing and installing body brace .
- Remove air cleaner housing ⇒ Rep. gr. 23 ; Air cleaner; Removing and installing air cleaner housing or ⇒ Rep. gr. 24; Air cleaner; Removing and installing air cleaner housing .
- Release catch -arrow A- and open cover -arrow B-.



- Detach electrical connector -1- from retainer and unplug.
- Remove nuts -3, 4 and 5- and move clear electrical wiring and wiring harness -2-.



- Lift off foam wedge -1-.
- Remove bolts -arrows-.
- Lift out jump start socket - U6- with wiring harness.

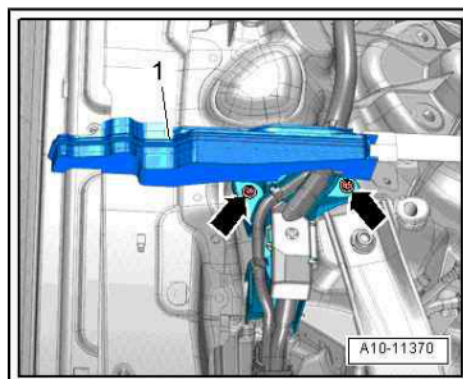
#### Installing

Installation is carried out in reverse order; note the following:

- Connect battery. Steps required: vehicles without high-voltage system ⇒ [page 13](#) , vehicles with high-voltage system ⇒ [page 14](#) .

#### Tightening torques

- ♦ ⇒ [“2.1 Exploded view - jump-start terminal”, page 34](#)
- ♦ ⇒ [“4.1 Exploded view - starter”, page 58](#)

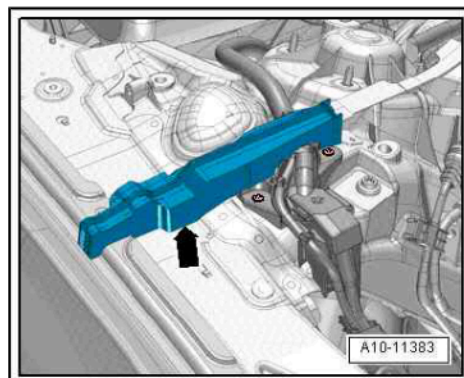




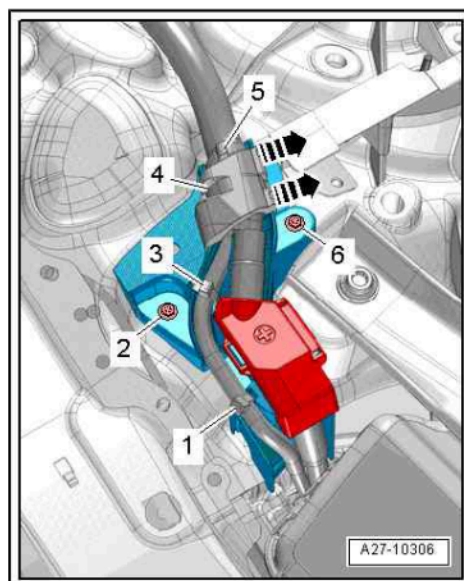
## 2.2.2 Removing and installing mounting for jump start socket - U6-

### Removing

- Remove plenum chamber cover ⇒ General body repairs, exterior; Rep. gr. 50 ; Bulkhead; Removing and installing plenum chamber cover .
- Lift off foam wedge -arrow-.



- Release cover -4- -arrows-, disengage and detach.
- Cut through cable ties -1, 3 and 5-.
- Remove bolts -2, 6-.



- Release cover -5- and swivel to the side.
- Release retaining tabs -1- and -3- and lift remote positive terminal -2- slightly out of mounting.
- Pull mounting -4- towards front of vehicle and swivel out in direction of -arrow-.

### Installing

Installation is carried out in reverse order; note the following:

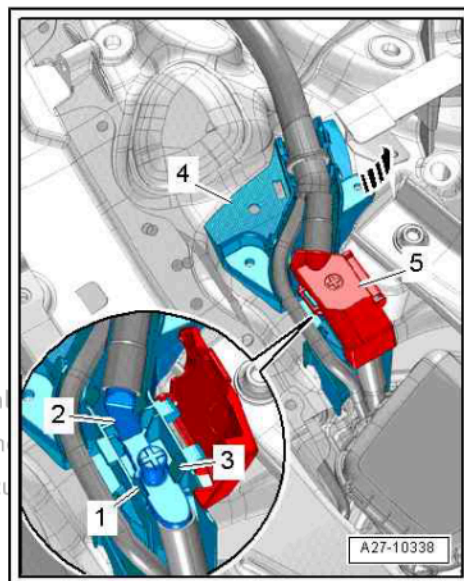


Note

*Refit all cable ties at the same locations when reinstalling.*

### Tightening torques

- ♦ ⇒ ["2.1 Exploded view - jump-start terminal", page 34](#)







### 3 Alternator

⇒ "3.1 Exploded view - alternator", page 38

⇒ "3.2 Removing and installing alternator", page 42

⇒ "3.3 Checking alternator", page 57

#### 3.1 Exploded view - alternator

⇒ "3.1.1 Exploded view - alternator without sliding bushes, version 1", page 38

⇒ "3.1.2 Exploded view - alternator without sliding bushes, version 2", page 39

⇒ "3.1.3 Exploded view - alternator with sliding bushes", page 40

⇒ "3.1.4 Exploded view - water-cooled alternator with sliding bushes", page 41

##### 3.1.1 Exploded view - alternator without sliding bushes, version 1

###### 1 - Bolt

- ❑ Different versions ⇒  
Electronic parts catalogue

- ❑ 4x

###### Steel bolt

- ❑ 20 Nm

###### Aluminium bolt

- ❑ Renew after removing
- ❑ 8 Nm +180°

###### 2 - Alternator

- ❑ Removing and installing  
⇒ page 42

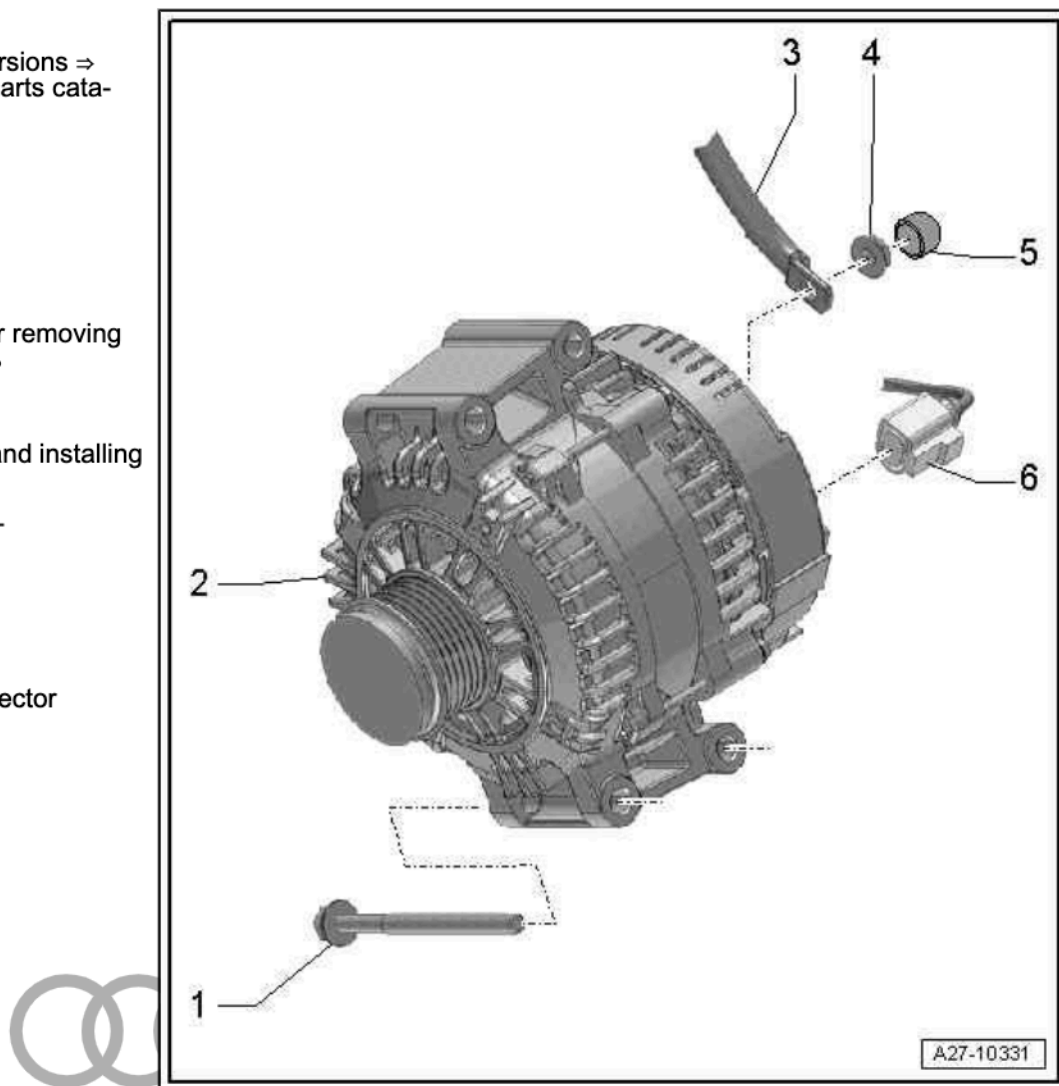
###### 3 - Terminal 30/B+

###### 4 - Nut

- ❑ 16 Nm

###### 5 - Trim cap

###### 6 - Electrical connector

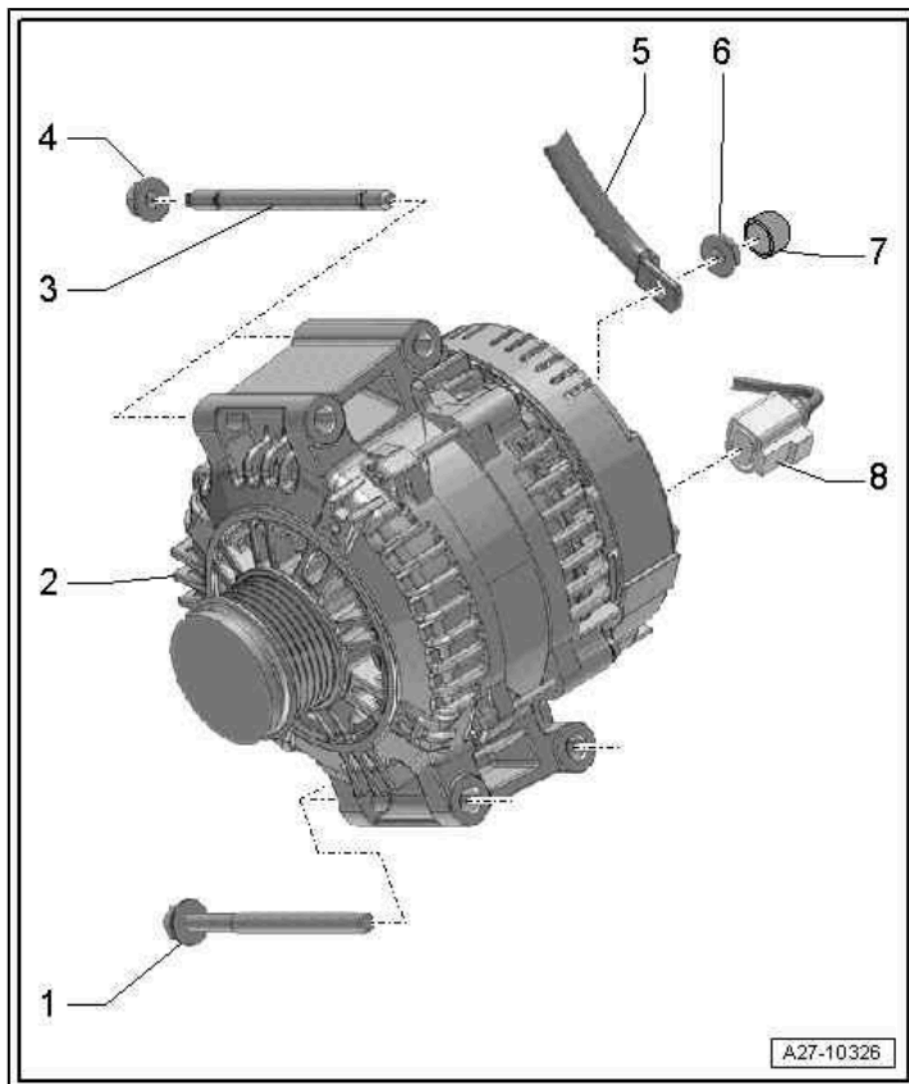


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### 3.1.2 Exploded view - alternator without sliding bushes, version 2

- 1 - Bolt
  - 2x
  - 20 Nm
- 2 - Alternator
  - Removing and installing  
⇒ [page 42](#)
- 3 - Threaded pin
  - 2x
  - 10 Nm
- 4 - Nut
  - 2x
  - 20 Nm
- 5 - Terminal 30/B+
- 6 - Nut
  - 16 Nm
- 7 - Trim cap
- 8 - Electrical connector

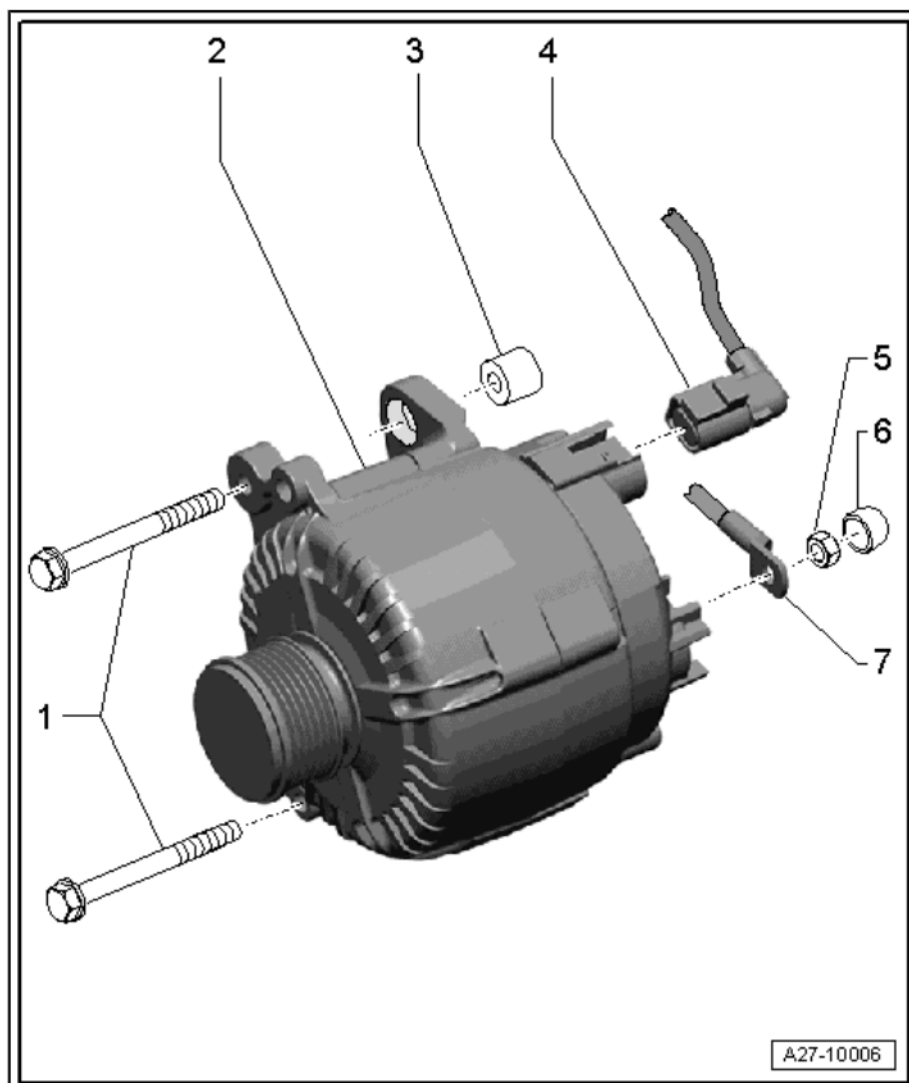


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### 3.1.3 Exploded view - alternator with sliding bushes

- 1 - Bolts
  - 23 Nm
- 2 - Alternator
  - Removing and installing  
⇒ [page 42](#)
- 3 - Sliding bush
  - Ensure that bushes  
slide freely, as the  
clamping pressure of a  
stiff bush will be insuffi-  
cient even when the cor-  
rect tightening torque is  
applied
- 4 - Electrical connector
- 5 - Nut
  - 16 Nm
- 6 - Trim cap
- 7 - Terminal 30/B+

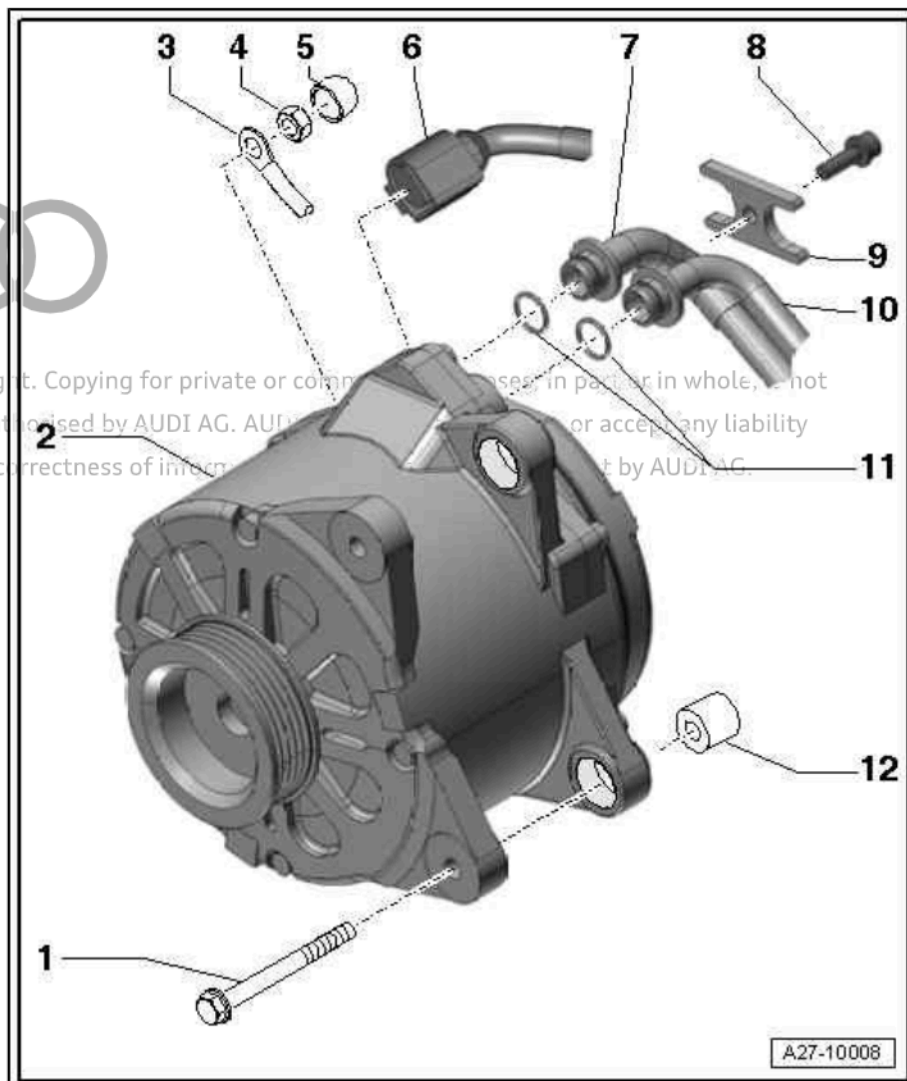


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### 3.1.4 Exploded view - water-cooled alternator with sliding bushes

- 1 - Bolt
  - ☐ 23 Nm
- 2 - Alternator
  - ☐ Removing and installing  
⇒ [page 42](#)
- 3 - Terminal 30/B+
- 4 - Nut
  - ☐ 16 Nm
- 5 - Trim cap
  - ☐ Depending on equipment
- 6 - Electrical connector
- 7 - Coolant return pipe
- 8 - Bolt
  - ☐ 9 Nm
- 9 - Retaining plate
  - ☐ For coolant pipes
- 10 - Coolant supply pipe
- 11 - O-rings
  - ☐ Renew
- 12 - Sliding bush
  - ☐ Ensure that bushes slide freely, as the clamping pressure of a stiff bush will be insufficient even when the correct tightening torque is applied





## 3.2 Removing and installing alternator

⇒ [“3.2.1 Removing and installing alternator - vehicles with 1.8 ltr. and 2.0 ltr. TFSI engine”, page 42](#)

⇒ [“3.2.2 Removing and installing alternator - vehicles with 2.5 ltr. and 2.8 ltr. FSI engine”, page 43](#)

⇒ [“3.2.3 Removing and installing alternator - vehicles with 3.0 ltr. TFSI engine”, page 44](#)

⇒ [“3.2.4 Removing and installing alternator - vehicles with 4.0 ltr. TFSI engine”, page 45](#)

⇒ [“3.2.5 Removing and installing alternator - vehicles with 2.0 ltr. TDI engine \(PR-TM4\)”, page 47](#)

⇒ [“3.2.6 Removing and installing alternator - vehicles with 2.0 ltr. TDI engine \(PR-TD1\)”, page 49](#)

⇒ [“3.2.7 Removing and installing alternator - vehicles with 3.0 ltr. TDI engine”, page 50](#)

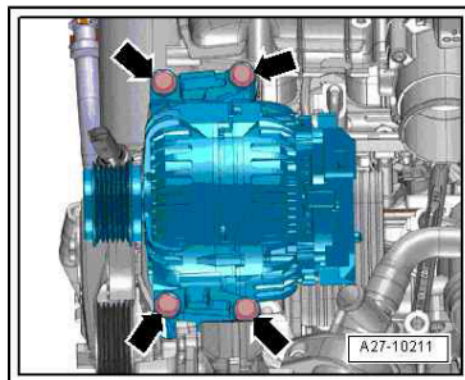
⇒ [“3.2.8 Removing and installing alternator - vehicles with 3.0 ltr. biturbo TDI engine”, page 52](#)

⇒ [“3.2.9 Removing and installing alternator - vehicles with 3.0 ltr. TDI engine \(EA897 generation I\)”, page 55](#)

### 3.2.1 Removing and installing alternator - vehicles with 1.8 ltr. and 2.0 ltr. TFSI engine

#### Removing

- Disconnect earth cable from battery with ignition switched off ⇒ [page 12](#) .
- Slacken off poly V-belt and detach from alternator pulley ⇒ Rep. gr. 13 ; Cylinder block (pulley end); Removing and installing poly V-belt .
- Remove bolts -arrows- and swivel alternator forwards.



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- Unplug electrical connector -1-.
- Unscrew terminal 30/B+ -item 2-.
- Remove alternator.

#### Installing

Installation is carried out in reverse order; note the following:



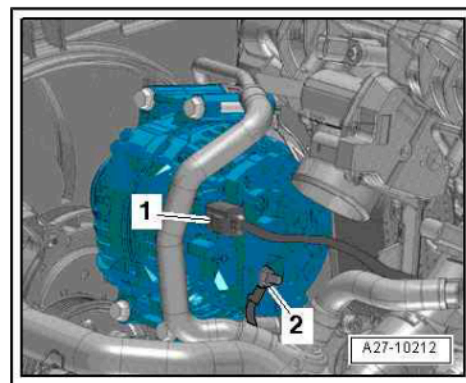
Note

*Renew aluminium bolts.*

- Make sure poly V-belt is properly seated and correctly routed.
- Connect battery. Steps required ➔ [page 13](#) .
- Start engine and check that poly V-belt(s) run properly.

#### Tightening torques

- ◆ ➔ ["3.1.1 Exploded view - alternator without sliding bushes, version 1", page 38](#)



### 3.2.2 Removing and installing alternator - vehicles with 2.5 ltr. and 2.8 ltr. FSI engine

#### Removing

- Disconnect earth cable from battery with ignition switched off ➔ [page 12](#) .
- Slacken off poly V-belt and detach from alternator pulley ➔ Rep. gr. 13 ; Cylinder block (pulley end); Removing and installing poly V-belt .
- Remove noise insulation (front) ➔ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .
- Unplug electrical connector -1- at oil level and oil temperature sender - G266- .
- Move clear wiring harness -6- at alternator -arrows-.
- Remove bolts -5, 7, 8, 9-.
- Unscrew nut -2- and detach B+ wire -3-.
- Unplug electrical connector -4-.
- Remove alternator downwards.

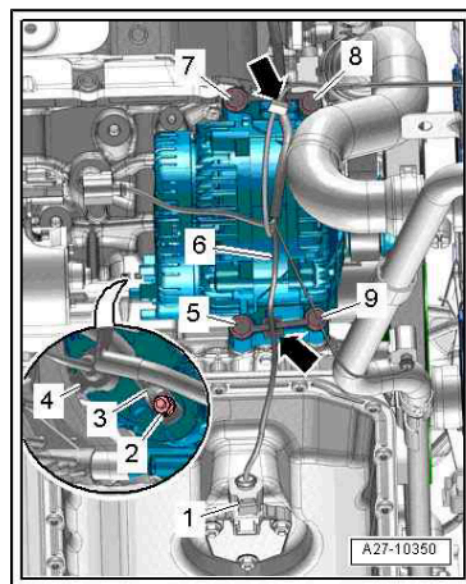
#### Installing

Installation is carried out in reverse order; note the following:

- Make sure poly V-belt is properly seated and correctly routed.
- Connect battery. Steps required ➔ [page 13](#) .
- Start engine and check that poly V-belt(s) run properly.

#### Tightening torques

- ◆ ➔ ["3.1.1 Exploded view - alternator without sliding bushes, version 1", page 38](#)







### 3.2.3 Removing and installing alternator - vehicles with 3.0 ltr. TFSI engine

#### Removing

- Disconnect earth cable from battery with ignition switched off ⇒ [page 12](#) .
- Slacken off poly V-belt and detach from alternator pulley ⇒ Rep. gr. 13 ; Cylinder block (pulley end); Removing and installing poly V-belt .
- Remove front wheel spoiler ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (front) .
- Cut through cable ties -3, 4- and move wiring harness on bracket -2- clear.



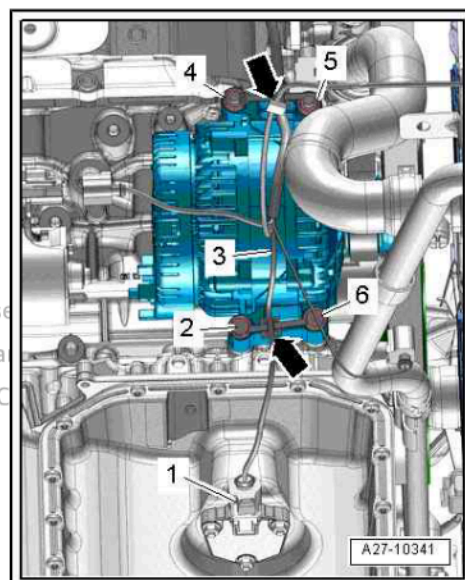
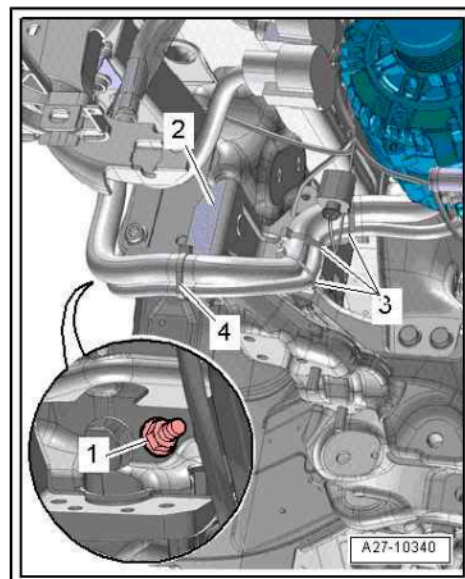
#### Note

Disregard -item 1-.

- Unplug electrical connector -1- at oil level and oil temperature sender - G266- .
- Move clear wiring harness -3- at alternator -arrows-.
- Remove nuts -4, 5- and bolts -2, 6-.



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- Unscrew nut -1- and detach B+ wire -2-.
- Unplug electrical connector -3-.
- Detach alternator -4- from threaded pins and take out from below.

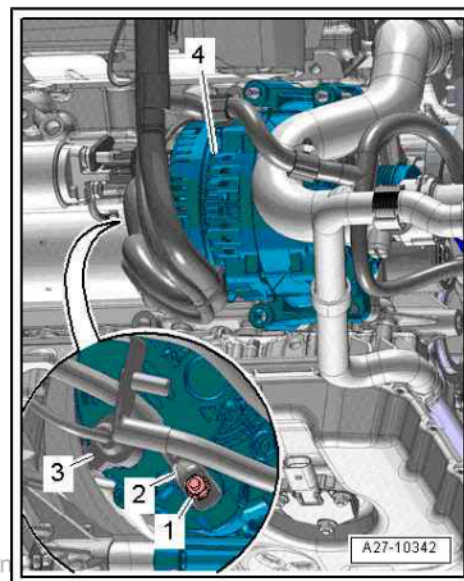
#### Installing

Installation is carried out in reverse order; note the following:

- Make sure poly V-belt is properly seated and correctly routed.
- Connect battery. Steps required ⇒ [page 13](#) .
- Start engine and check that poly V-belt(s) run properly.

#### Tightening torques

- ◆ ⇒ ["3.1.1 Exploded view - alternator without sliding bushes, version 1", page 38](#)
- ◆ ⇒ ["2.1 Exploded view - jump-start terminal", page 34](#)

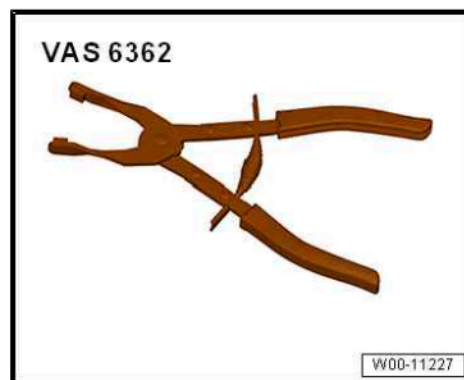


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### 3.2.4 Removing and installing alternator - vehicles with 4.0 ltr. TFSI engine

Special tools and workshop equipment required

- ◆ Hose clip pliers - VAS 6362-



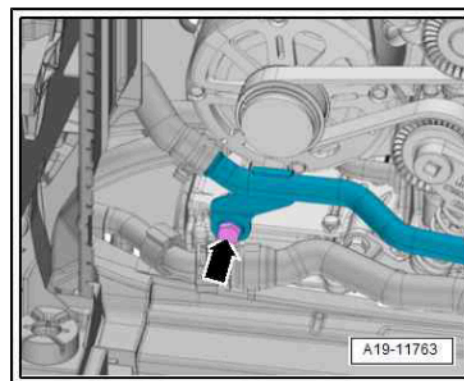
#### Removing

- Disconnect earth cable from battery with ignition switched off ⇒ [page 12](#) .
- Remove radiator with radiator cowl ⇒ Rep. gr. 19 ; Radiator/ radiator fans; Removing and installing radiator .
- If fitted, remove bolt -arrow- for coolant line.
- Remove tensioner for poly V-belt ⇒ Rep. gr. 13 ; Cylinder block (pulley end); Removing and installing tensioner for poly V-belt .



Note

*The coolant lines remain connected on the Audi RS 6.*

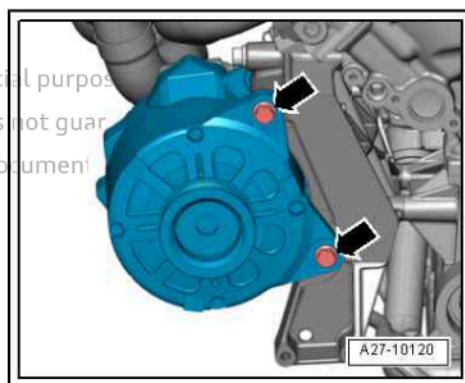
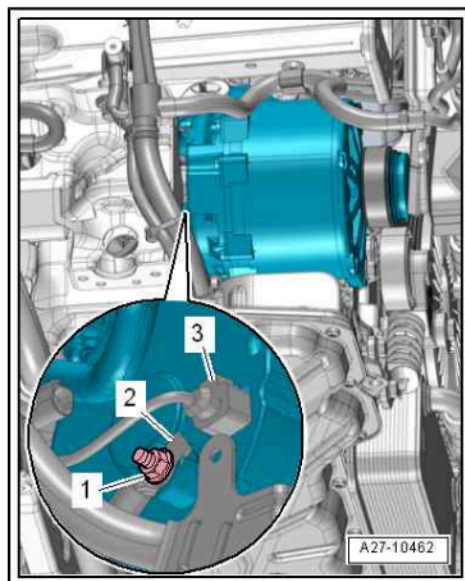




- Unplug electrical connector -3-.
- Unscrew nut -1- and detach B+ wire -2-.



- Unscrew bolts -arrows- for alternator approx. 6 turns.
- Tap carefully on bolt heads with a hammer to release sliding bushes securing alternator.
- Remove bolts completely.
- If fitted, remove silencer for auxiliary heater ⇒ Auxiliary heater, supplementary heater; Rep. gr. 82 ; Auxiliary/supplementary heater; Removing and installing silencer with bracket .
- Move alternator as far as possible towards right.





- Release hose clip -3- and detach coolant hose -4-.
- Remove bolt -1- and pull off coolant hose with connection -2-.
- Take out alternator towards front.

#### Installing

Installation is carried out in reverse order; note the following:

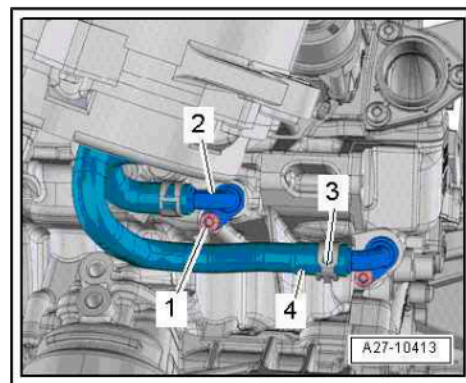


#### Note

- ◆ *Secure all hose connections with the correct type of hose clips (same as original equipment) ⇒ Electronic parts catalogue .*
- ◆ *You must ensure that the bushes slide freely, as the clamping pressure of a stiff bush will be insufficient even when the correct tightening torque is applied.*
- To facilitate positioning of alternator, drive back sliding bushes for securing bolts slightly.
- Make sure poly V-belt is properly seated and correctly routed.
- Connect battery. Steps required ⇒ [page 13](#) .
- Start engine and check that belt runs properly.

#### Tightening torques

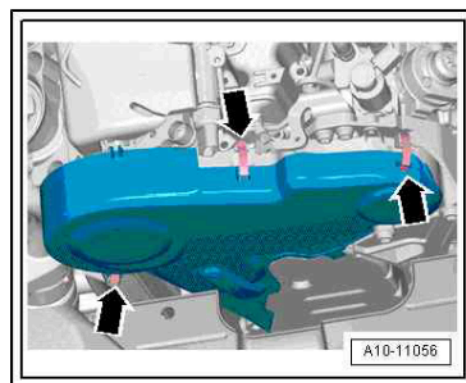
- ◆ ⇒ ["3.1.4 Exploded view - water-cooled alternator with sliding bushes"](#), [page 41](#)



### 3.2.5 Removing and installing alternator - vehicles with 2.0 ltr. TDI engine (PR-TM4)

#### Removing

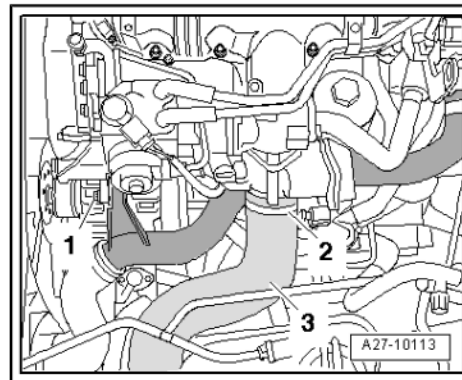
- Disconnect earth cable from battery with ignition switched off ⇒ [page 12](#) .
- Slacken off poly V-belt and detach from alternator pulley ⇒ Rep. gr. 13 ; Cylinder block (pulley end); Removing and installing poly V-belt .
- Unfasten retaining clips -arrows- and remove toothed belt cover (top).



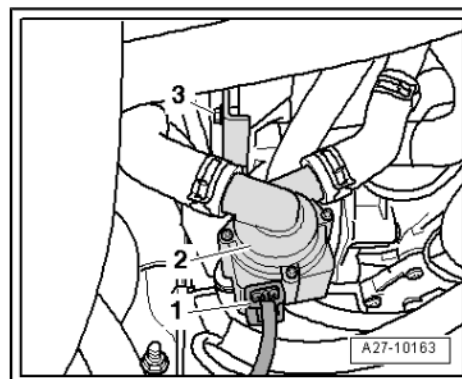




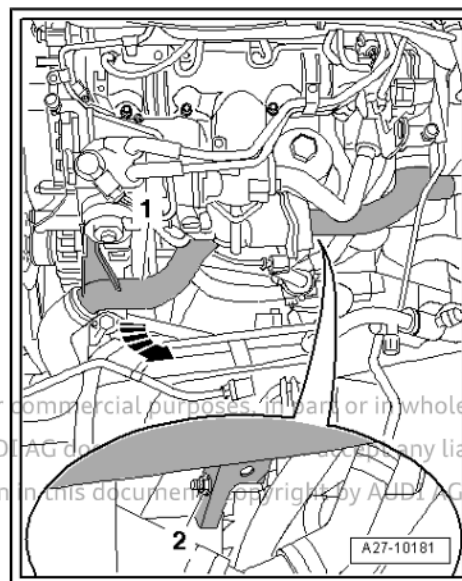
- Release hose clip -2- and detach air hose -3- from throttle valve module - J338- .
- Remove bolt -1-.



- Remove nut -3- and unplug electrical connector -1-.
- Detach continued coolant circulation pump - V51- -item 2- with retainer and move clear to one side (with coolant hoses attached).

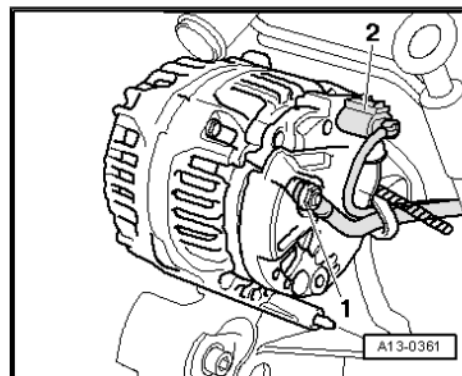


- Unscrew centre hex stud -2- and pull coolant pipe -1- (with hoses connected) in direction of -arrow-.



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- Unscrew terminal 30/B+ -item 1-.
- Unplug electrical connector -2-.





- Remove bolts -arrows-.



#### Note

- ◆ *If alternator sticks in retainer, screw bolt back in again down to the last 2 turns.*
- ◆ *Tap carefully on bolt heads with flat side of hammer to release bushes of alternator mountings.*

- Pull coolant pipe to one side and detach alternator -1-.

#### Installing

Installation is carried out in reverse order; note the following:

- To facilitate positioning of alternator, drive back bushes for securing bolts slightly.



#### Note

*Stiff alternator mount bushes must be freed; otherwise the clamping force of the bush will not be adequate even when the bolts are tightened to the correct torque.*

- Make sure poly V-belt is properly seated and correctly routed.
- Connect battery. Steps required ➔ [page 13](#) .
- Start engine and check that belt runs properly.

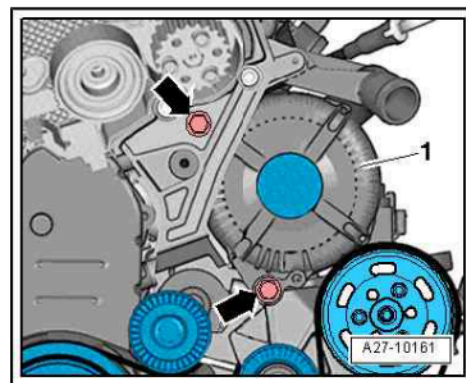
#### Tightening torques

- ◆ ➔ ["3.1.3 Exploded view - alternator with sliding bushes", page 40](#)

### 3.2.6 Removing and installing alternator - vehicles with 2.0 ltr. TDI engine (PR-TD1)

#### Removing

- Disconnect earth cable from battery with ignition switched off ➔ [page 12](#) .
  - Remove tensioner for poly V-belt ➔ Engine; Rep. gr. 13 ; Cylinder block (pulley end); Removing and installing tensioner for poly V-belt .
  - Detach air conditioner compressor at bracket and tie up to side ➔ Heating, air conditioning; Rep. gr. 87 ; Air conditioner compressor; Detaching and attaching air conditioner compressor at bracket .
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- Unplug electrical connector -3-.
- Unscrew nut -2- and detach B+ wire -1-.
- Unscrew bolts -arrows- approx. six turns.
- Tap carefully on bolt heads with a hammer to release bushes on alternator mountings.
- Remove bolts completely.
- Remove alternator -4- downwards.

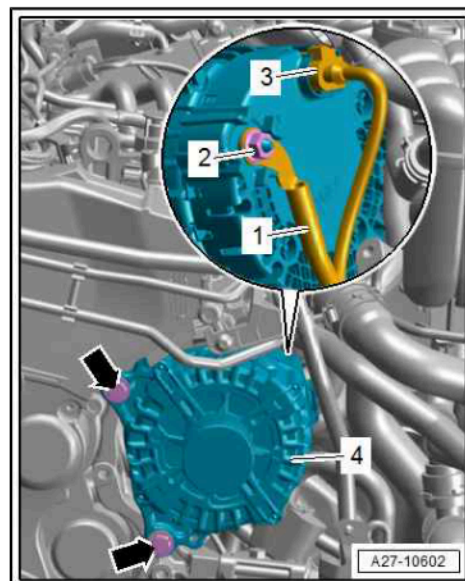
#### Installing

Installation is carried out in reverse order; note the following:

- To facilitate positioning of alternator, drive back bushes for securing bolts slightly.
- Stiff alternator mount bushes must be freed; otherwise the clamping force of the bush will not be adequate even when the bolts are tightened to the correct torque.
- Connect battery. Steps required ⇒ [page 13](#) .
- Start engine and check that poly V-belt(s) run properly.

#### Tightening torques

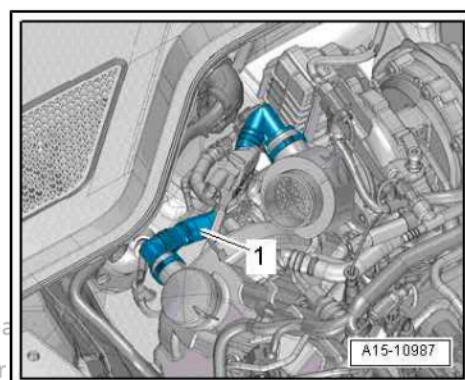
- ♦ ⇒ ["3.1.3 Exploded view - alternator with sliding bushes", page 40](#)



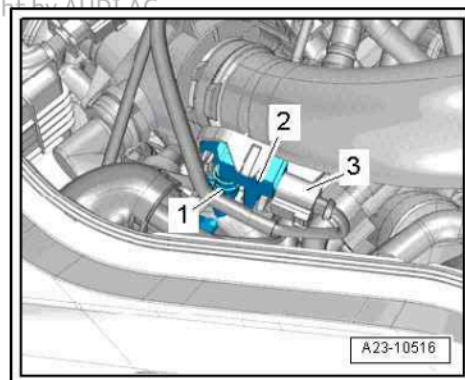
### 3.2.7 Removing and installing alternator - vehicles with 3.0 ltr. TDI engine

#### Removing

- Disconnect earth cable from battery with ignition switched off ⇒ [page 12](#) .
- Slacken off poly V-belt and detach from alternator pulley ⇒ Rep. gr. 13 ; Cylinder block (pulley end); Removing and installing poly V-belt .
- Remove air cleaner housing ⇒ Rep. gr. 23 ; Air cleaner; Removing and installing air cleaner housing .
- Press release tabs and remove crankcase breather hose -1-.

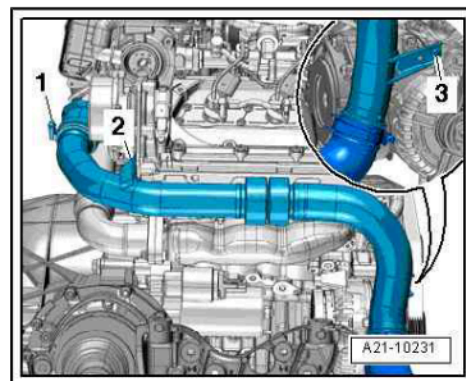


- Unplug electrical connector -3-.
- Unclip pressure differential sender - G505- -item 2- and remove from bracket.
- Unscrew bracket for pressure differential sender from cylinder head cover.
- Open bracket for fuel lines on cylinder head cover and lift fuel lines.

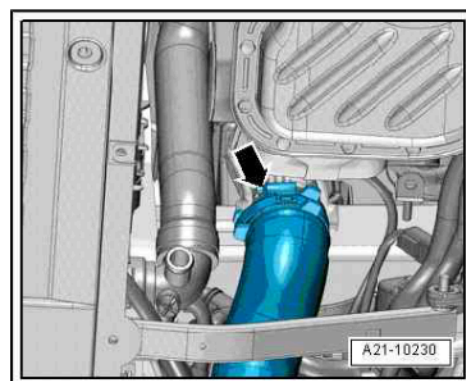




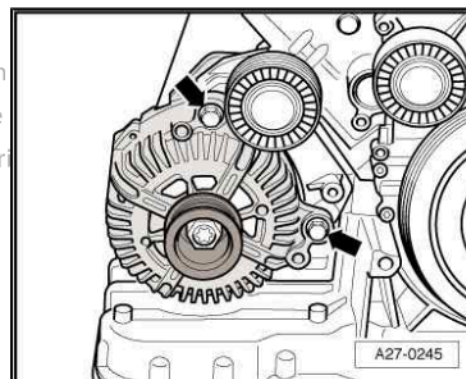
- Remove bolts -2- and -3-.
- Detach air pipe from air hose (release hose clip -1-).
- Remove front right wheel spoiler ➔ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (front) .



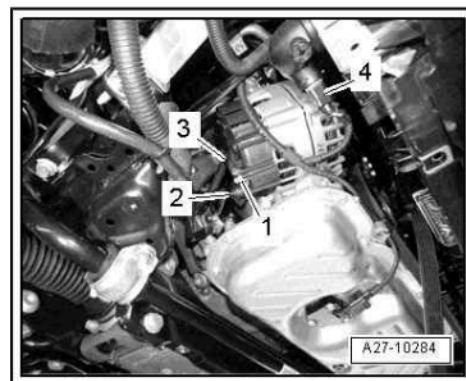
- Detach air hose from air pipe (right-side) and move clear to one side (release hose clip -arrow-).
- Push air pipe upwards until alternator is free.
- Remove noise insulation (front) ➔ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .



- Unscrew bolts -arrows- for alternator approx. 6 turns.
- Tap carefully on bolt heads with a hammer to release bushes on alternator mountings.
- Remove bolts completely.



- Detach alternator from bracket.
- Unplug electrical connectors -2, 4-.
- Unscrew nut -1- and detach B+ wire -3-.





- Take out alternator -1- as shown in illustration -arrow-.

#### Installing

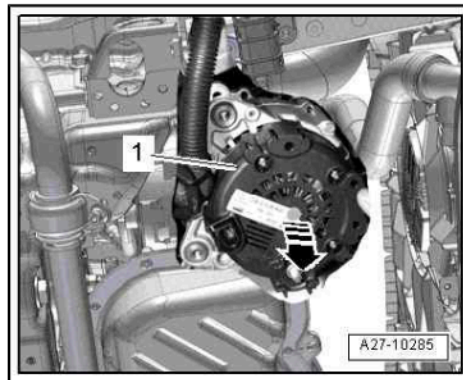
Installation is carried out in reverse order; note the following:

- To facilitate positioning of alternator, drive back bushes for securing bolts slightly.



#### Note

*Stiff alternator mount bushes must be freed; otherwise the clamping force of the bush will not be adequate even when the bolts are tightened to the correct torque.*



- Make sure poly V-belt is properly seated and correctly routed.
- Connect battery. Steps required ➔ [page 13](#).
- Start engine and check that poly V-belt(s) run properly.

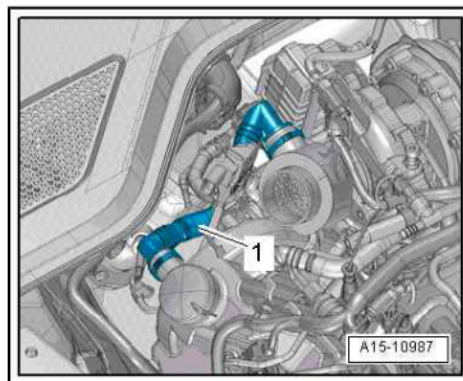
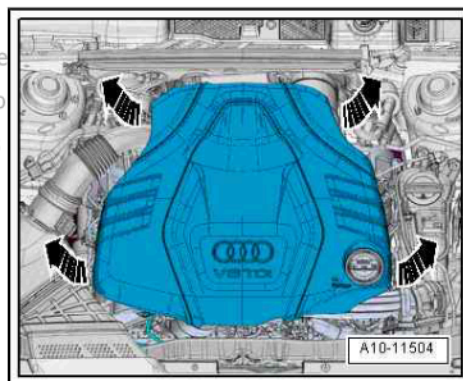
#### Tightening torques

- ♦ ➔ ["3.1.3 Exploded view - alternator with sliding bushes", page 40](#)
- ♦ Air pipe ➔ Rep. gr. 21 ; Charge air system; Exploded view - charge air system

### 3.2.8 Removing and installing alternator - vehicles with 3.0 ltr. biturbo TDI engine

#### Removing

- Disconnect earth cable from battery with ignition switched off ➔ [page 12](#).
- Carefully pull engine cover panel off retaining pins one after another -arrows-. Do not jerk engine cover panel away, and do not try to pull on one side only.
- Remove air cleaner housing ➔ Rep. gr. 23 ; Air cleaner; Removing and installing air cleaner housing .
- Slacken off poly V-belt and detach from alternator pulley ➔ Rep. gr. 13 ; Cylinder block (pulley end); Removing and installing poly V-belt .
- Move fuel lines clear at cylinder head cover.
- Press release tabs and remove crankcase breather hose -1-.





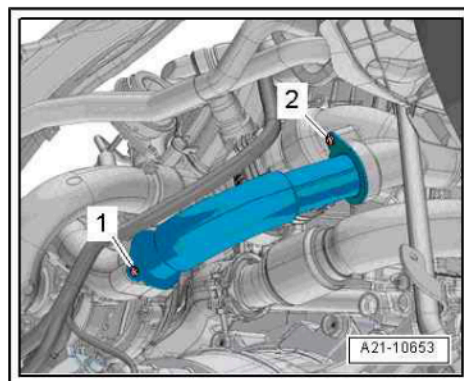


- Remove front noise insulation ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .
- Remove bolts -1-.

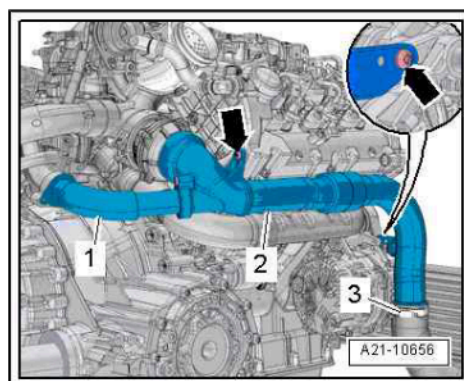


Note

*Disregard -item 2-.*



- Release hose clip -3- and detach air hose from air pipe (right-side).
- Remove bolts -arrows-.
- Detach air pipe (right-side) -2- with air pipe intermediate piece -1- from turbocharger and move to one side.

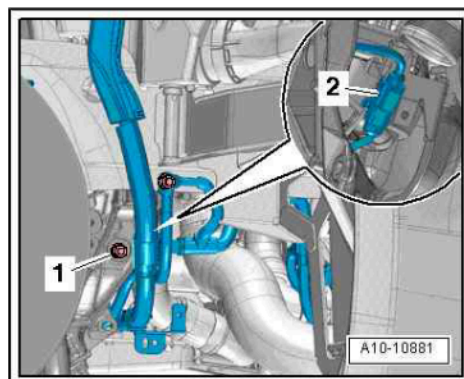


- Unplug electrical connector -2- and move clear.

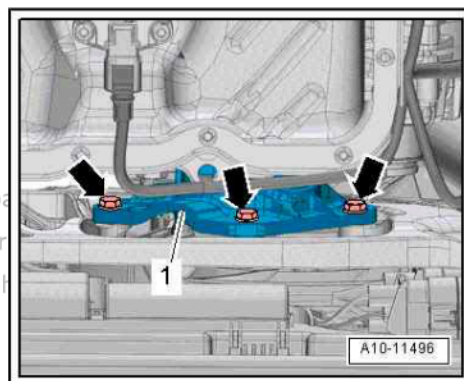


Note

*Disregard -item 1-.*



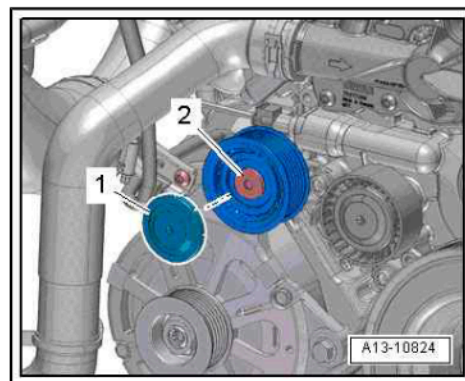
- Remove bolts -arrows-, turn stop -1- for torque reaction support 90° and press upwards.



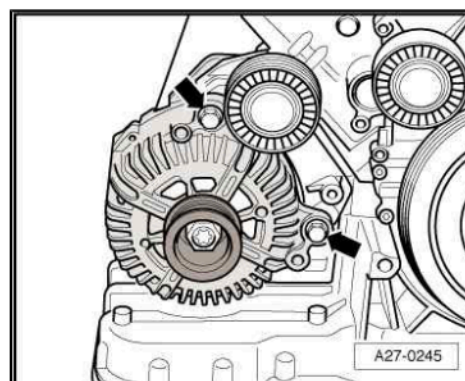
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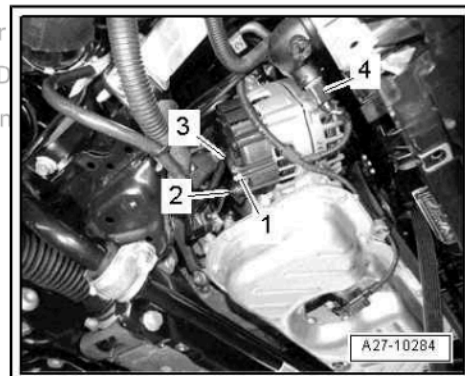
- Unclip cover -1-.
- Remove bolt -2- and detach idler roller (right-side).



- Unscrew bolts -arrows- for alternator approx. 6 turns.
- Tap carefully on bolt heads with a hammer to release bushes on alternator mountings.
- Remove bolts completely.



- Detach alternator from bracket.
- Unplug electrical connectors -2, 4-.
- Unscrew nut -1- and detach B+ wire -3-.
- Take out alternator towards right.



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#### Installing

Installation is carried out in reverse order; note the following:

- To facilitate positioning of alternator, drive back bushes for securing bolts slightly.



#### Note

*Stiff alternator mount bushes must be freed; otherwise the clamping force of the bush will not be adequate even when the bolts are tightened to the correct torque.*

- Make sure poly V-belt is properly seated and correctly routed.
- Connect battery. Steps required ⇒ [page 13](#) .
- Start engine and check that poly V-belt(s) run properly.

#### Tightening torques

- ♦ ⇒ ["3.1.3 Exploded view - alternator with sliding bushes", page 40](#)
- ♦ Stop for torque reaction support ⇒ Rep. gr. 10 ; Assembly mountings; Exploded view - assembly mountings .
- ♦ Air pipe ⇒ Rep. gr. 21 ; Charge air system; Exploded view - charge air system

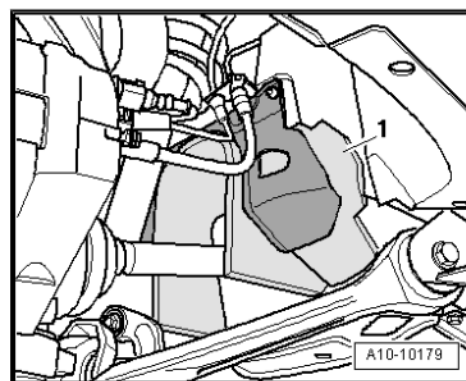




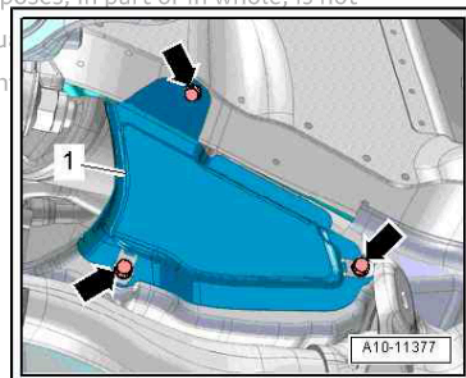
### 3.2.9 Removing and installing alternator - vehicles with 3.0 ltr. TDI engine (EA897 generation I)

#### Removing

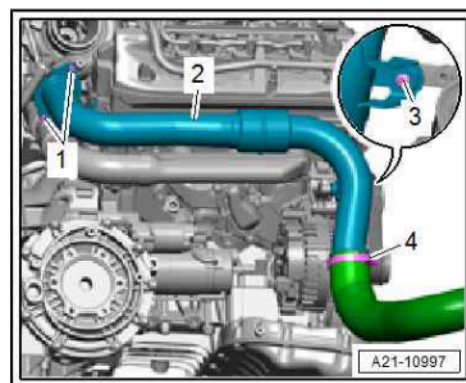
- Disconnect earth cable from battery with ignition switched off ➔ [page 12](#) .
- Remove air cleaner housing ➔ Rep. gr. 23 ; Air cleaner; Removing and installing air cleaner housing .
- Remove cover -1- (right-side) for drive shaft in wheel housing.



- Remove bolts -arrows- and detach heat shield -1- (right-side).
- Remove front wheel spoiler (right-side) ➔ General body repairs, exterior, Rep. gr. 66 ; Wheel housing liners; Exploded view - wheel housing liner (front) .
- Remove poly V-belt ➔ Rep. gr. 13 ; Cylinder block (pulley end); Removing and installing poly V-belt .

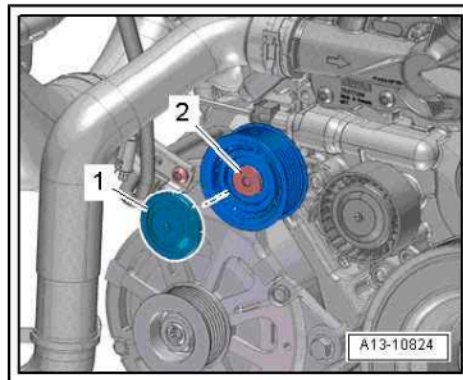


- Release hose clip -4- and detach air hose from air pipe.
- Remove bolts -1, 3- and push air pipe -2- upwards until alternator is accessible.

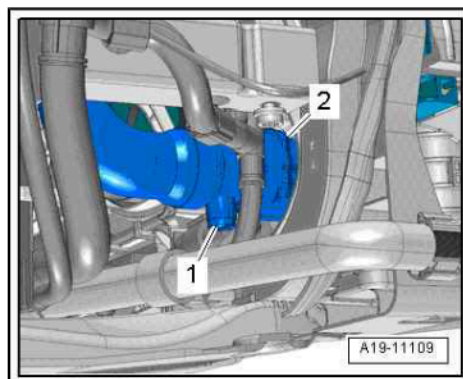




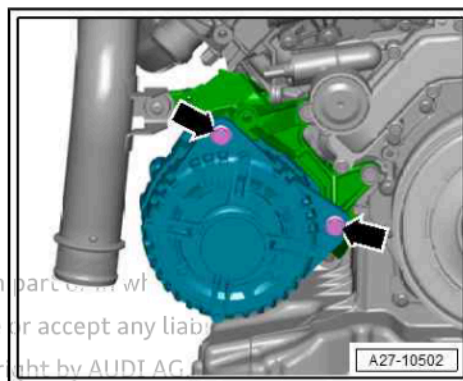
- Remove bolt -2- and detach idler roller.



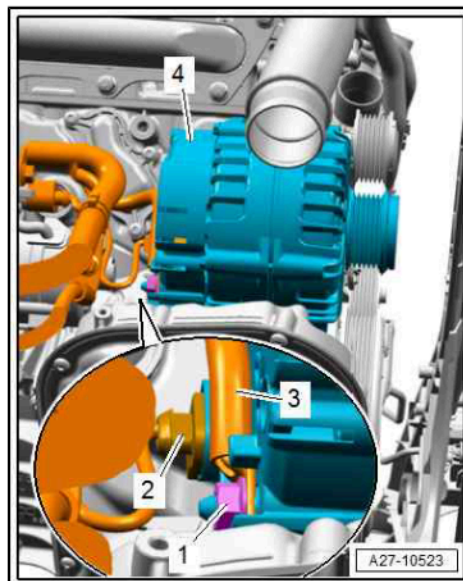
- Drain off coolant ⇒ Rep. gr. 19 ; Cooling system/coolant; Draining and filling cooling system .
- Lift retaining clip -2- and disconnect coolant hose from radiator.



- Unscrew bolts -arrows- for alternator approx. 6 turns.
- Tap carefully on bolt heads with a hammer to release bushes on alternator mountings.
- Remove bolts completely.



- Detach alternator -4- from bracket.
- Unscrew nut -1- and detach B+ wire -2-.
- Unplug electrical connector -2-.





- Take out alternator -1- as shown in illustration -arrow-.



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#### Note

- ◆ *If the air pipe cannot be pushed far enough upwards, the coolant pipe (right-side) must be detached (to do so, remove bolts -arrows-).*
- ◆ *Do not loosen -items 1, 2 and 3-.*

#### Installing

Installation is carried out in reverse order; note the following:



#### Note

*Stiff alternator mount bushes must be freed; otherwise the clamping force of the bush will not be adequate even when the bolts are tightened to the correct torque.*

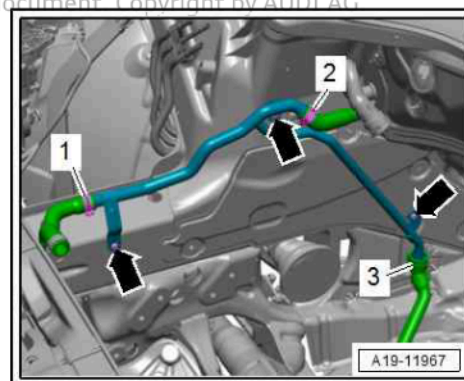
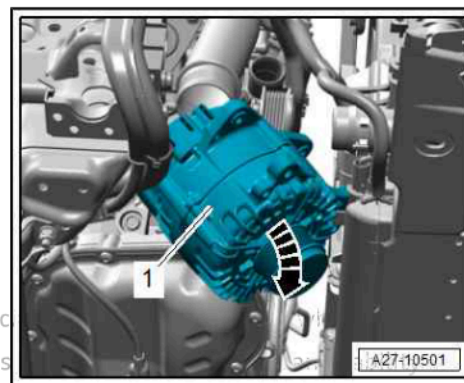
- To facilitate positioning of alternator, drive back bushes for securing bolts slightly.
- Make sure poly V-belt is properly seated and correctly routed.
- Connect battery. Steps required ⇒ [page 13](#) .
- Start engine and check that poly V-belt(s) run properly.

#### Tightening torques

- ◆ ⇒ ["3.1.3 Exploded view - alternator with sliding bushes", page 40](#)
- ◆ ⇒ Rep. gr. 13 ; Cylinder block (pulley end); Exploded view - cylinder block (pulley end)

### 3.3 Checking alternator

⇒ Electrical system; General information; Rep. gr. 27 ; Alternator





## 4 Starter

⇒ "4.1 Exploded view - starter", page 58

⇒ "4.2 Removing and installing starter", page 60

### 4.1 Exploded view - starter

⇒ "4.1.1 Exploded view - starter, vehicles with 4-cyl. engine", page 58

⇒ "4.1.2 Exploded view - starter, vehicles with 6-cyl. or 8-cyl. engine", page 59

#### 4.1.1 Exploded view - starter, vehicles with 4-cyl. engine

##### 1 - Bolt

□ Tightening torque:

- ◆ Vehicles with manual gearbox ⇒ Rep. gr. 34 ; Removing and installing gearbox; Tightening torques for gearbox
- ◆ Vehicles with automatic gearbox ⇒ Rep. gr. 37 ; Removing and installing gearbox; Tightening torques for gearbox
- ◆ Vehicles with dual clutch gearbox ⇒ Rep. gr. 34 ; Removing and installing gearbox; Tightening torques for gearbox

##### 2 - Spacer sleeve

##### 3 - Starter

□ Removing and installing  
⇒ page 60

##### 4 - Terminal B+

##### 5 - Nut

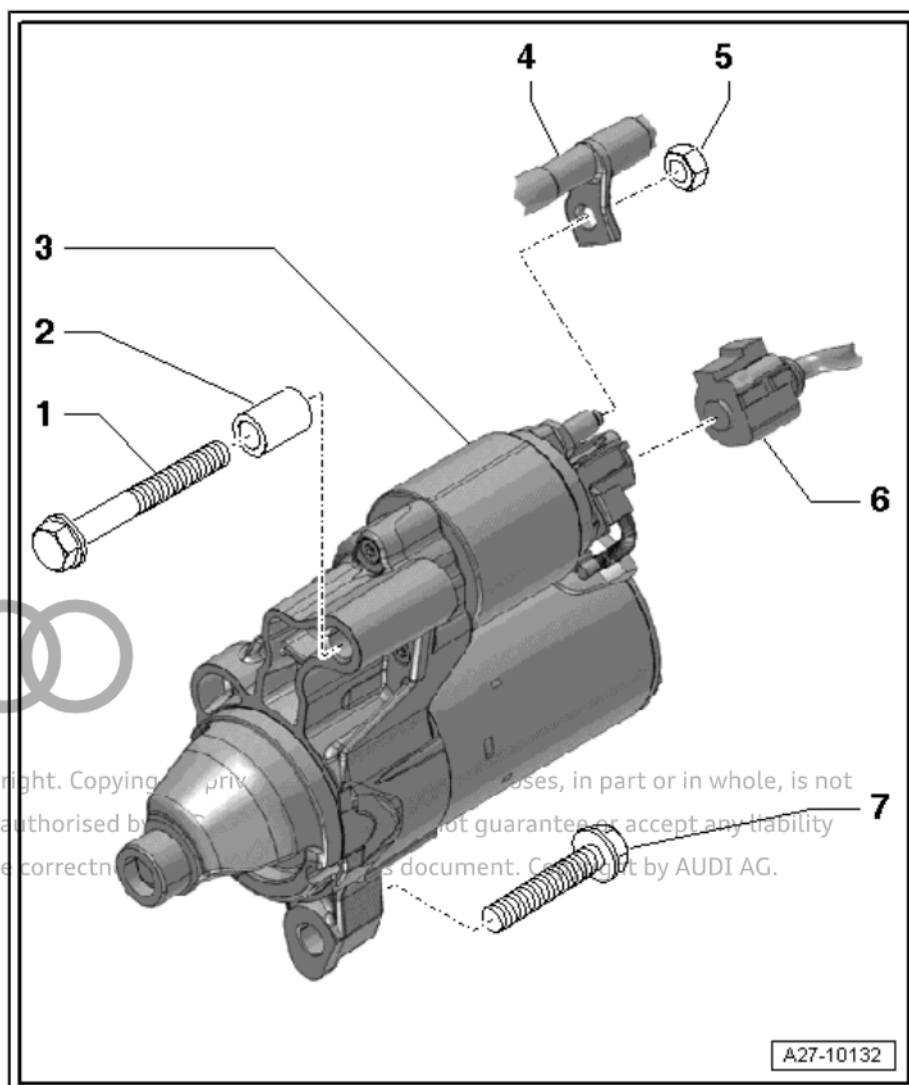
□ 15 Nm

##### 6 - Electrical connector

##### 7 - Bolt

□ Tightening torque:

- ◆ Vehicles with manual gearbox ⇒ Rep. gr. 34 ; Removing and installing gearbox; Tightening torques for gearbox
- ◆ Vehicles with automatic gearbox ⇒ Rep. gr. 37 ; Removing and installing gearbox; Tightening torques for gearbox
- ◆ Vehicles with dual clutch gearbox ⇒ Rep. gr. 34 ; Removing and installing gearbox; Tightening torques for gearbox







## 4.1.2 Exploded view - starter, vehicles with 6-cyl. or 8-cyl. engine

### 1 - Starter

- ❑ Removing and installing  
⇒ [page 60](#)

### 2 - Bolt

- ❑ Tightening torque:

- ◆ Vehicles with manual gearbox or dual clutch gearbox  
⇒ Rep. gr. 34 ; Removing and installing gearbox;  
Tightening torques for gearbox

- ◆ Vehicles with automatic gearbox ⇒ Rep. gr. 37 ;  
Removing and installing gearbox; Tightening torques for gearbox

### 3 - Electrical connector

### 4 - Terminal B+

### 5 - Nut

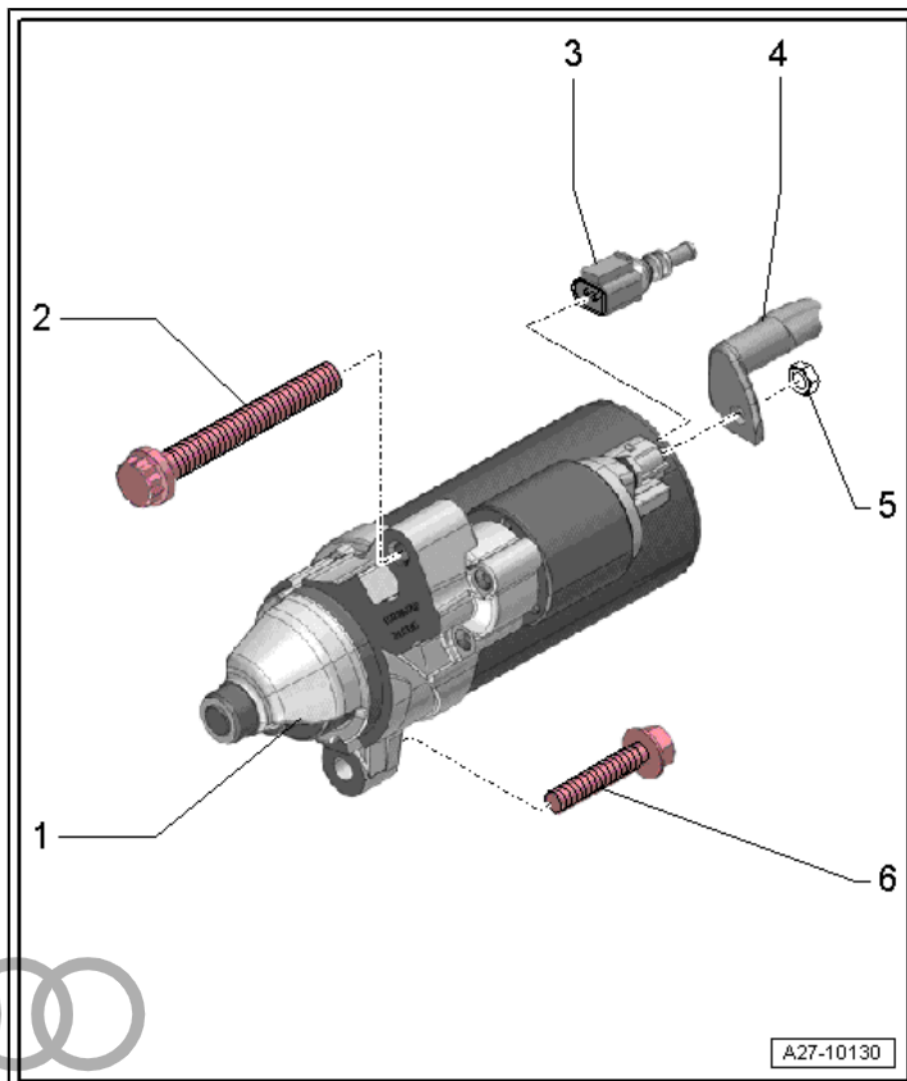
- ❑ 20 Nm

### 6 - Bolt

- ❑ Tightening torque:

- ◆ Vehicles with manual gearbox or dual clutch gearbox  
⇒ Rep. gr. 34 ; Removing and installing gearbox;  
Tightening torques for gearbox

- ◆ Vehicles with automatic gearbox ⇒ Rep. gr. 37 ;  
Removing and installing gearbox; Tightening torques for gearbox



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## 4.2 Removing and installing starter

⇒ [“4.2.1 Removing and installing starter - vehicles with 1.8 ltr and 2.0 ltr. TFSI engine without high-voltage system”, page 60](#)

⇒ [“4.2.2 Removing and installing starter - vehicles with 2.0 ltr. TFSI engine and high-voltage system”, page 62](#)

⇒ [“4.2.3 Removing and installing starter - vehicles with 2.5 ltr. and 2.8 ltr. FSI engine”, page 63](#)

⇒ [“4.2.4 Removing and installing starter - vehicles with 3.0 ltr. TFSI engine”, page 64](#)

⇒ [“4.2.5 Removing and installing starter - vehicles with 4.0 ltr. TFSI engine”, page 65](#)

⇒ [“4.2.6 Removing and installing starter - vehicles with 2.0 ltr. TDI engine \(PR-TM4\)”, page 67](#)

⇒ [“4.2.7 Removing and installing starter - vehicles with 2.0 ltr. TDI engine \(PR-TD1\)”, page 68](#)

⇒ [“4.2.8 Removing and installing starter - vehicles with 3.0 ltr. TDI engine”, page 71](#)

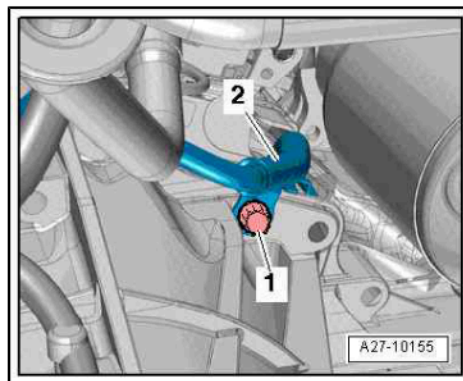
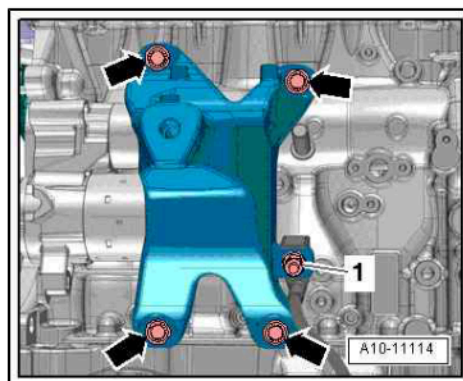
⇒ [“4.2.9 Removing and installing starter - vehicles with 3.0 ltr. biturbo TDI engine”, page 71](#)

⇒ [“4.2.10 Removing and installing starter - vehicles with 3.0 ltr. TDI engine \(EA897 generation I\)”, page 72](#)

### 4.2.1 Removing and installing starter - vehicles with 1.8 ltr and 2.0 ltr. TFSI engine without high-voltage system

#### Removing

- Disconnect earth cable from battery with ignition switched off ⇒ [page 12](#) .
- Vehicles up to model year 2014 only: Remove catalytic converter ⇒ Rep. gr. 26 ; Emission control system; Removing and installing catalytic converter .
- Remove engine mounting (right-side) ⇒ Rep. gr. 10 ; Assembly mountings; Removing and installing engine mountings .
- Remove nut -1- and move earth cable clear at engine support.
- Remove bolts -arrows- and detach engine support (right-side).
- Remove bolt -1- for retainer -2- for wiring harness.



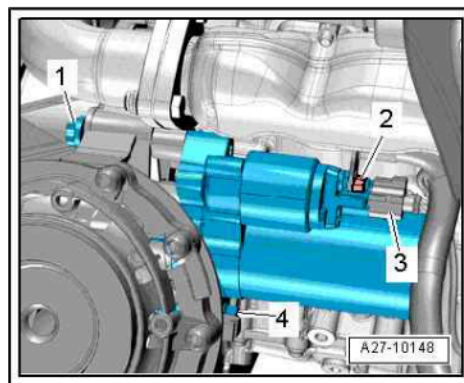


- Unplug connector -3- by sliding locking element to rear and pressing down release catch.
- Unscrew nut -2- and detach B+ wire from solenoid switch.
- Unscrew bolts -1, 4- and detach starter.



Note

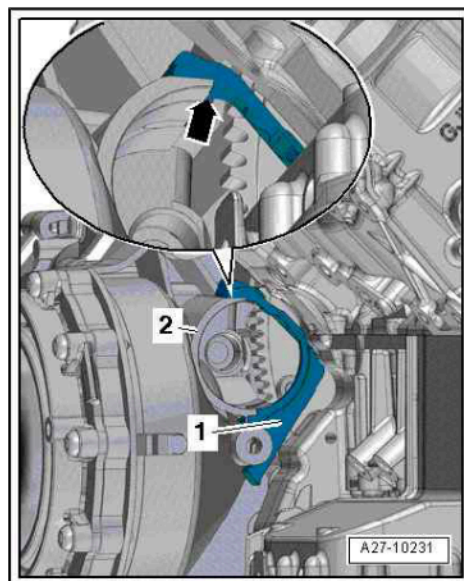
-Item 1- is accessible from above.



#### Installing

Installation is carried out in reverse order; note the following:

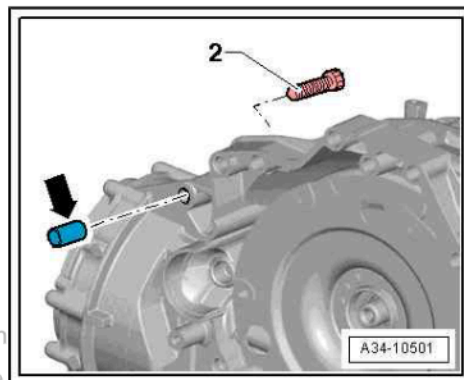
- On vehicles with automatic gearbox, check whether locking part -1- is properly inserted in starter opening before installing starter.
- The locking part must align with the starter opening -2- -arrow-.



Caution

*Risk of damage to starter.*

- ◆ To tighten bolt -2-, spacer sleeve -arrow- must be inserted between starter and gearbox.



- Connect battery. Steps required ➔ [page 13](#) .

#### Tightening torques

- ◆ ➔ ["4.1.1 Exploded view - starter, vehicles with 4-cyl. engine"](#), [page 58](#)

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## 4.2.2 Removing and installing starter - vehicles with 2.0 ltr. TFSI engine and high-voltage system

### Removing

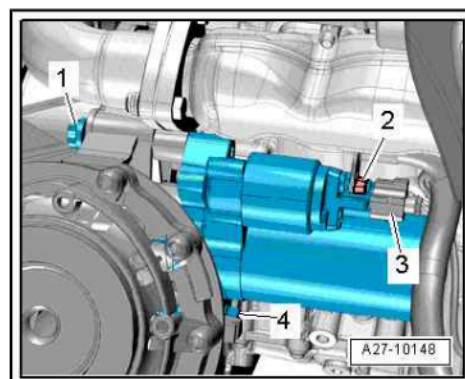
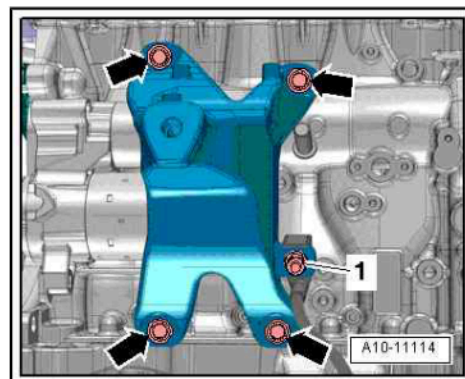
- Disconnect earth cable from batteries with ignition switched off ➔ [page 13](#) .
- Hybrid: Remove catalytic converter ➔ Rep. gr. 26 ; Emission control system; Removing and installing catalytic converter .
- e-tron: Remove front silencer ➔ Rep. gr. 26 ; Exhaust pipes/silencers; Removing and installing front silencer .
- Remove engine mounting (right-side) ➔ Rep. gr. 10 ; Assembly mountings; Removing and installing engine mountings .
- Remove nut -1- and move earth cable clear at engine support.
- Remove bolts -arrows- and detach engine support (right-side).
- Unscrew bolts -1, 4- and detach starter.



### Note

-Item 1- is accessible from above.

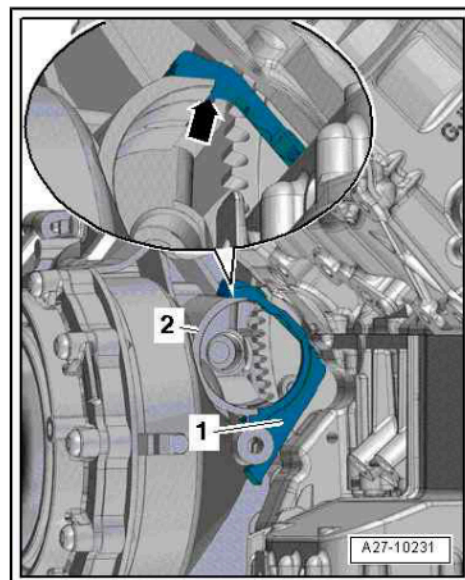
- Unplug connector -3- by sliding locking element to rear and pressing down release catch.
- Unscrew nut -2- and detach B+ wire from solenoid switch.



### Installing

Installation is carried out in reverse order; note the following:

- Check whether locking part -1- is properly inserted in starter opening before installing starter.
- The locking part must align with the starter opening -2- -arrow-.



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#### Caution

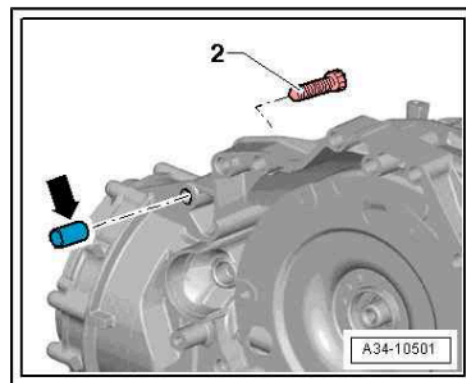
*Risk of damage to starter.*

- ◆ *To tighten bolt -2-, spacer sleeve -arrow- must be inserted between starter and gearbox.*

- Connect battery. Steps required ➔ [page 14](#) .

Tightening torques

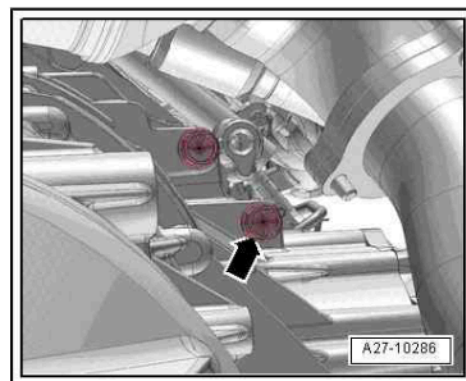
- ◆ ➔ ["4.1.1 Exploded view - starter, vehicles with 4-cyl. engine", page 58](#)



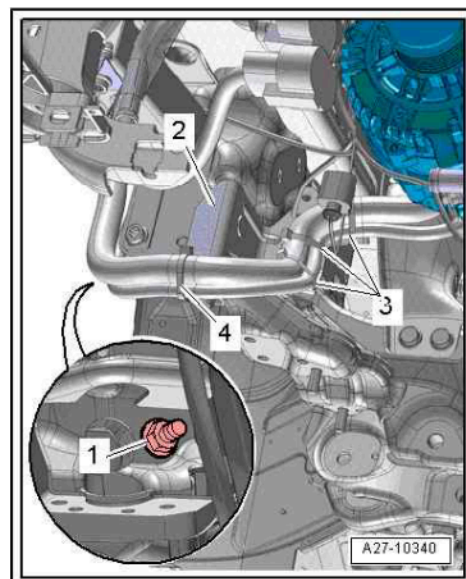
### 4.2.3 Removing and installing starter - vehicles with 2.5 ltr. and 2.8 ltr. FSI engine

#### Removing

- Disconnect earth cable from battery with ignition switched off ➔ [page 12](#) .
- Remove plenum chamber partition panel ➔ [General body repairs, exterior; Rep. gr. 50 ; Bulkhead; Removing and installing plenum chamber partition panel](#) .
- Vehicles with multitronic gearbox: Detach catalytic converter (right-side) from exhaust manifold ➔ [Rep. gr. 26 ; Emission control system; Removing and installing catalytic converter](#) .
- Remove bolt -arrow-.



- Remove front wheel spoiler ➔ [General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner \(front\)](#) .
- Unscrew nut -1-.
- Cut through cable ties -3 and 4- and detach bracket -2- for wiring harness.





- Remove engine mountings ⇒ Rep. gr. 10 ; Assembly mountings; Removing and installing engine mountings .
- Remove nut -1- and move earth cable clear at engine support.
- Remove bolts -arrows- and detach engine support (right-side).



- Unplug connector -3- by sliding locking element to rear and pressing down release catch.
- Unscrew nut -4- and detach B+ wire -2- from solenoid switch.
- Remove bolt -5- and detach starter -1-.

#### Installing

Installation is carried out in reverse order; note the following:

- Connect battery. Steps required ⇒ [page 13](#) .

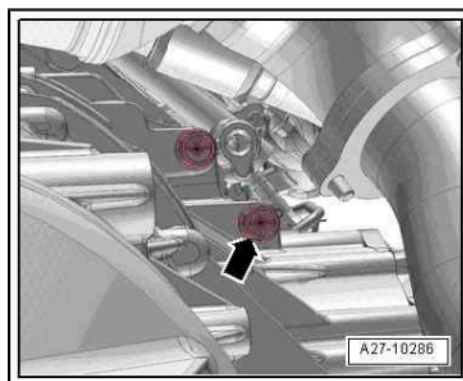
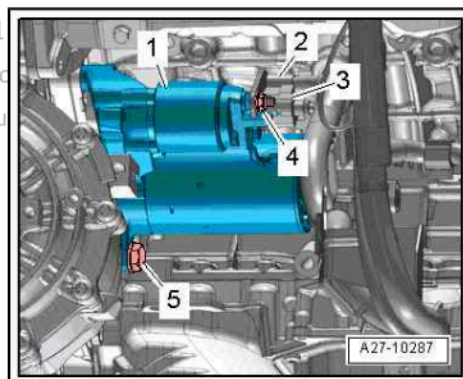
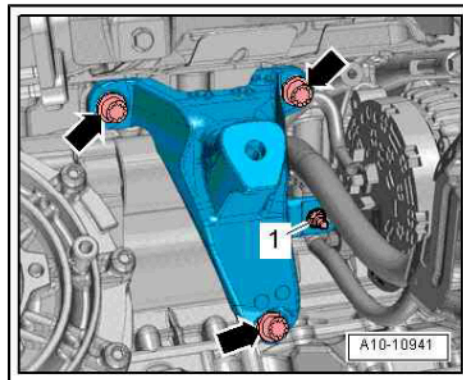
#### Tightening torques

- ♦ ⇒ [“4.1.2 Exploded view - starter, vehicles with 6-cyl. or 8-cyl. engine”, page 59](#)
- ♦ ⇒ [“2.1 Exploded view - jump-start terminal”, page 34](#)

### 4.2.4 Removing and installing starter - vehicles with 3.0 ltr. TFSI engine

#### Removing

- Disconnect earth cable from battery with ignition switched off ⇒ [page 12](#) .
- Remove plenum chamber partition panel ⇒ General body repairs, exterior; Rep. gr. 50 ; Bulkhead; Removing and installing plenum chamber partition panel .
- Remove bolt -arrow-.





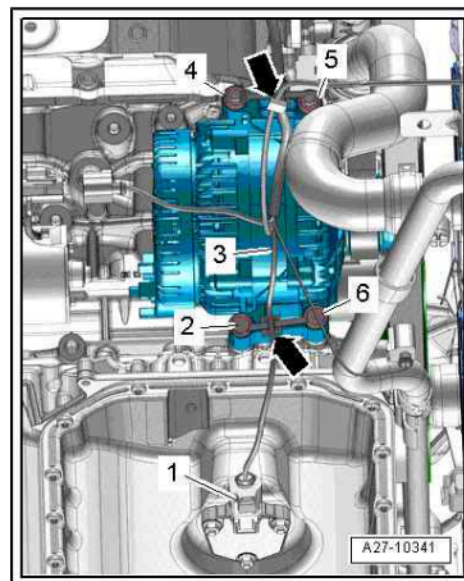


- Unplug electrical connector -1- at oil level and oil temperature sender - G266- .
- Move clear wiring harness -3- at alternator -arrows-.

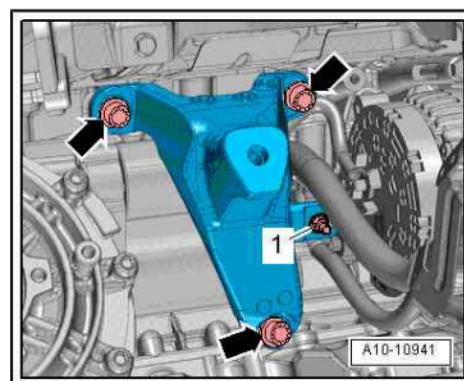


Note

*Disregard -items 2, 4, 5, 6-.*



- Remove engine mountings ⇒ Rep. gr. 10 ; Assembly mountings; Removing and installing engine mountings .
- Remove nut -1- and move earth cable clear at engine support.
- Remove bolts -arrows- and detach engine support (right-side).



- Unplug connector -3- by sliding locking element to rear and pressing down release catch.
- Unscrew nut -4- and detach B+ wire -2- from solenoid switch.
- Remove bolt -5- and detach starter -1-.

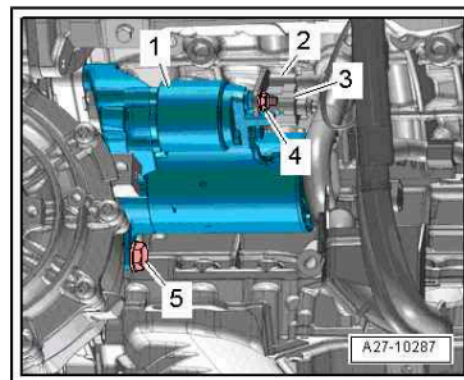
Installing

Installation is carried out in reverse order; note the following:

- Connect battery. Steps required ⇒ [page 13](#) .

Tightening torques

- ◆ ⇒ ["4.1.2 Exploded view - starter, vehicles with 6-cyl. or 8-cyl. engine", page 59](#)



#### 4.2.5 Removing and installing starter - vehicles with 4.0 ltr. TFSI engine

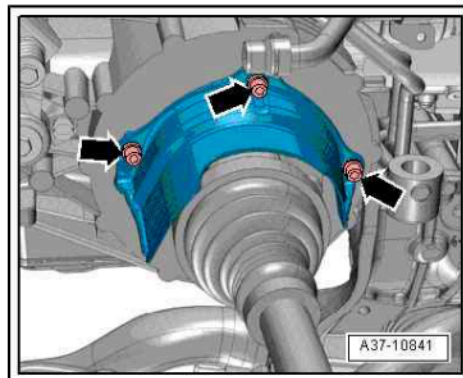
Removing

- On vehicles with dual clutch gearbox 0B5: Remove catalytic converters ⇒ Rep. gr. 26 ; Emission control system; Removing and installing catalytic converter .
- Remove engine mountings ⇒ Rep. gr. 10 ; Assembly mountings; Removing and installing engine mountings .
- Remove front wheel housing liner ⇒ General body repairs, exterior, Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (front)

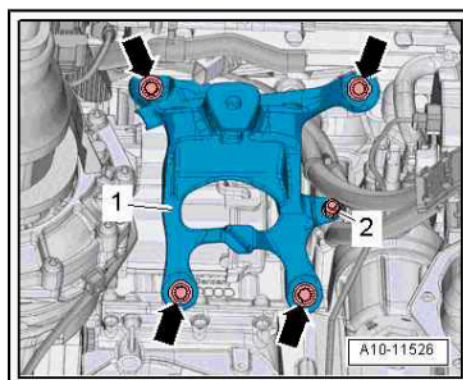
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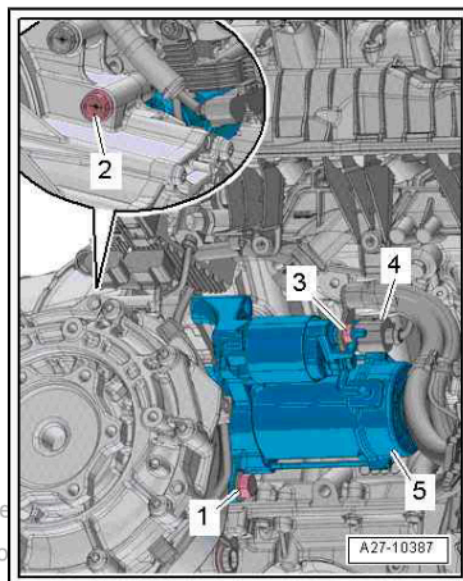
- On vehicles with automatic gearbox 0BK: Remove noise insulation (rear) ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .
- Unscrew bolts -arrows- and detach heat shield.



- Remove nut -2- and move earth cable clear at engine support (right-side).
- Remove bolts -arrows- and detach engine support (right-side) -1-.



- Unplug connector -4- by sliding locking element to rear and pressing down release catch.
- Unscrew nut -3- and detach B+ wire from solenoid switch.
- Remove bolts -1, 2-.
- Detach starter -5-.



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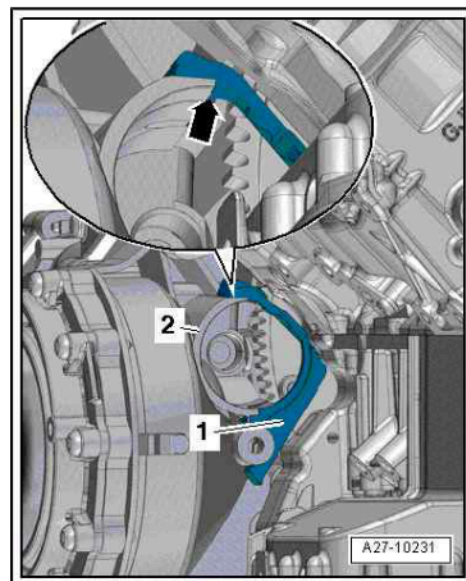
## Installing

Installation is carried out in reverse order; note the following:

- Check whether locking part -1- is properly inserted in starter opening before installing starter.
- The locking part must align with the starter opening -2- -arrow-.

## Tightening torques

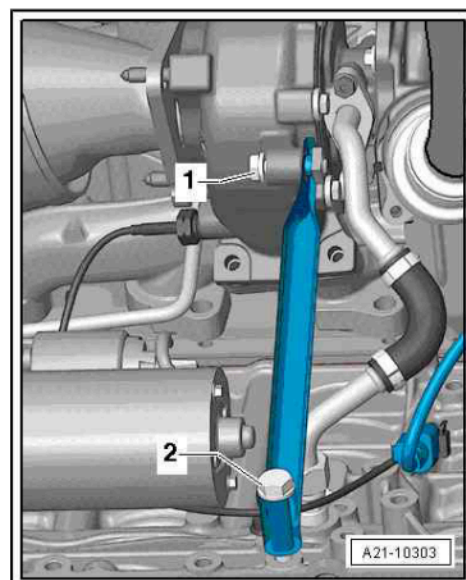
- ♦ ⇒ ["4.1.2 Exploded view - starter, vehicles with 6-cyl. or 8-cyl. engine", page 59](#)



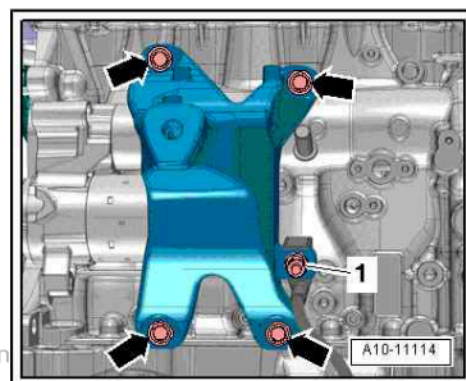
## 4.2.6 Removing and installing starter - vehicles with 2.0 ltr. TDI engine (PR-TM4)

### Removing

- Disconnect earth cable from battery with ignition switched off ⇒ [page 12](#) .
- Remove bolts -1, 2- and detach turbocharger support.
- Remove engine mounting (right-side) ⇒ Rep. gr. 10 ; Assembly mountings; Removing and installing engine mountings .



- Remove nut -1- and move earth cable clear at engine support.
- Remove bolts -arrows- and detach engine support (right-side).

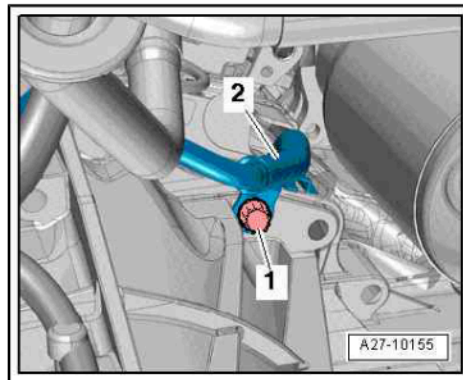


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- Remove bolt -1- for retainer -2- for wiring harness.



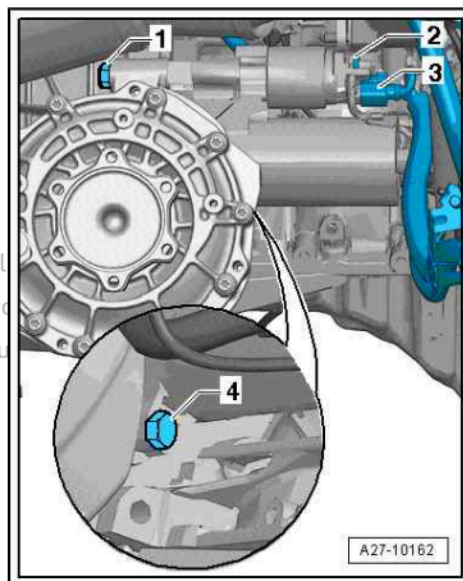
- Unplug connector -3- by sliding locking element to rear and pressing down release catch.
- Unscrew nut -2- and detach B+ wire from solenoid switch.
- Unscrew bolts -1, 4- and detach starter.



#### Note

*-Item 1- is accessible from above.*

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#### Installing

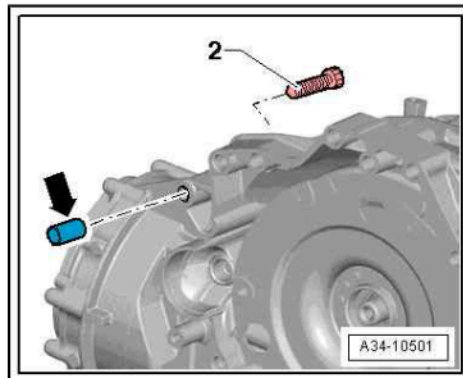
Installation is carried out in reverse order; note the following:



#### Caution

*Risk of damage to starter.*

- ◆ *To tighten bolt -2-, spacer sleeve -arrow- must be inserted between starter and gearbox.*



- Connect battery. Steps required ➔ [page 13](#) .

#### Tightening torques

- ◆ ➔ ["4.1.1 Exploded view - starter, vehicles with 4-cyl. engine", page 58](#)

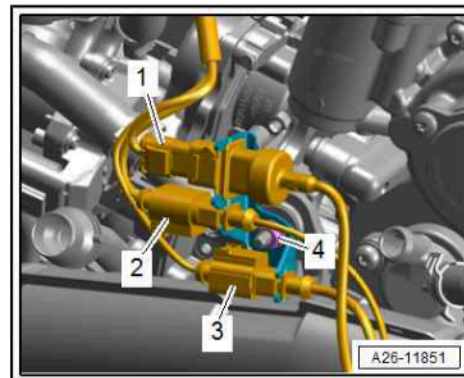
### 4.2.7 Removing and installing starter - vehicles with 2.0 ltr. TDI engine (PR-TD1)

#### Removing

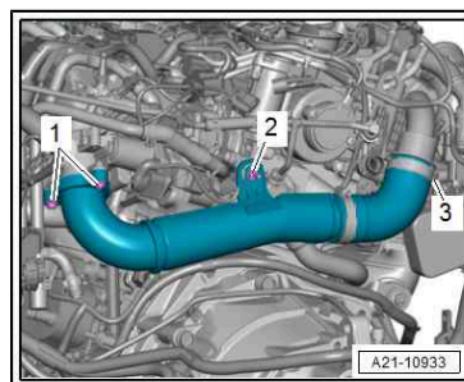
- Disconnect earth cable from battery with ignition switched off ➔ [page 12](#) .
- Remove engine cover panel ➔ Servicing 4-cylinder TDI engine, common rail; Rep. gr. 10 ; Engine cover panel; Removing and installing engine cover panel .



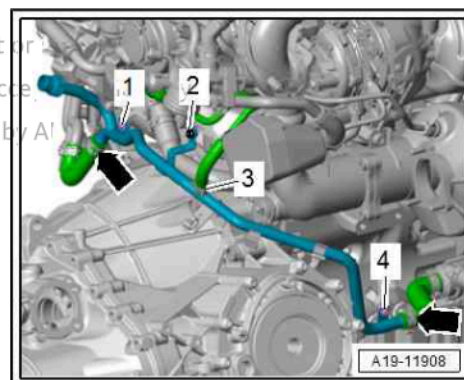
- Remove plenum chamber partition panel ➔ General body repairs, exterior; Rep. gr. 50 ; Bulkhead; Exploded view - plenum chamber partition panel .
- Remove nut -4- and move bracket with electrical connectors -1, 2, 3- to one side.



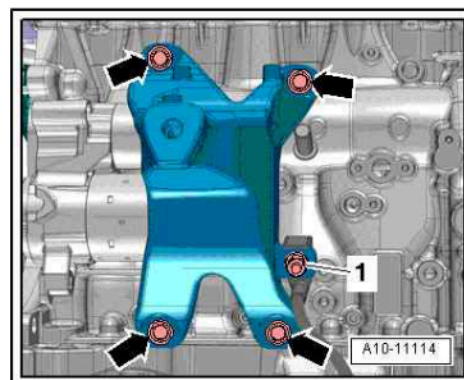
- Remove bolt -1- and centre hex stud -2-.
- Release hose clip -3- and detach air pipe.



- Remove nut -2- and bolts -1, 4- and push coolant pipe (rear) slightly to one side.
- Remove engine mounting (right-side) ➔ Rep. gr. 10 ; Assembly mountings; Removing and installing engine mountings.



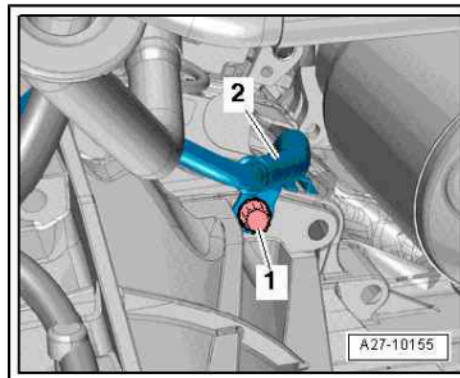
- Remove nut -1- and move earth cable clear at engine support.
- Remove bolts -arrows- and detach engine support (right-side).







- Remove bolt -1- for retainer -2- for wiring harness.

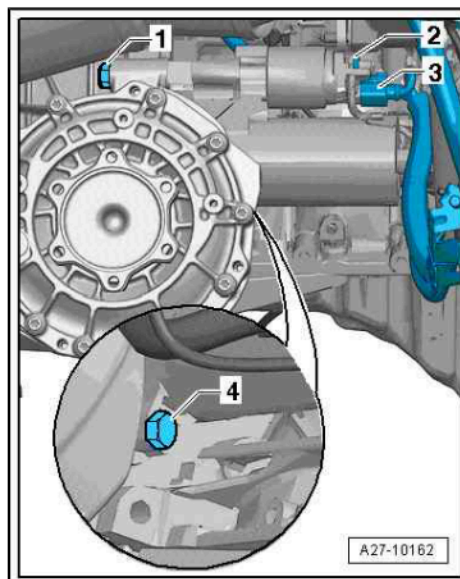


- Unplug connector -3- by sliding locking element to rear and pressing down release catch.
- Unscrew nut -2- and detach B+ wire from solenoid switch.
- Unscrew bolts -1, 4- and detach starter.



#### Note

-Item 1- is accessible from above.



#### Installing

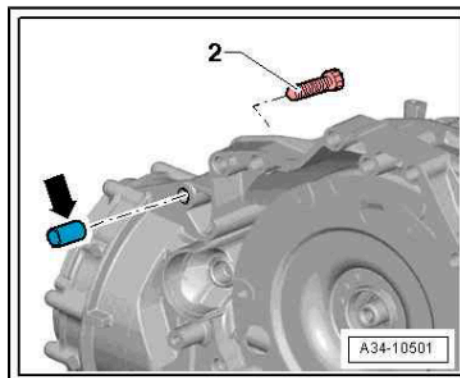
Installation is carried out in reverse order; note the following:



#### Caution

*Risk of damage to starter.*

- ◆ To tighten bolt -2-, spacer sleeve -arrow- must be inserted between starter and gearbox.



- Connect battery. Steps required ➔ [page 13](#) .

#### Tightening torques

- ◆ ➔ ["4.1.1 Exploded view - starter, vehicles with 4-cyl. engine", page 58](#)
- ◆ ➔ Engine; Rep. gr. 10 ; Assembly mountings; Exploded view - assembly mountings
- ◆ ➔ Servicing 4-cylinder TDI engine, common rail; Rep. gr. 21 ; Charge air system; Exploded view - charge air system
- ◆ ➔ Servicing 4-cylinder TDI engine, common rail; Rep. gr. 21 ; Charge air system; Exploded view - hose connections for charge air system
- ◆ ➔ Servicing 4-cylinder TDI engine, common rail; Rep. gr. 19 ; Coolant pipes; Exploded view - coolant pipes

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## 4.2.8 Removing and installing starter - vehicles with 3.0 ltr. TDI engine

### Removing

- Disconnect earth cable from battery with ignition switched off ➔ [page 12](#) .
- Remove plenum chamber partition panel ➔ General body repairs, exterior; Rep. gr. 50 ; Bulkhead; Removing and installing plenum chamber partition panel .
- Remove bolt -arrow-.
- Remove engine mountings ➔ Rep. gr. 10 ; Assembly mountings; Removing and installing engine mountings .
- Remove nut -1- and move earth cable clear at engine support.
- Remove bolts -arrows- and detach engine support (right-side).



- Unplug connector -2- by sliding locking element to rear and pressing down release catch.
- Unscrew nut -4- and detach B+ wire -3- from solenoid switch.
- Remove bolt -5- and detach starter -1-.

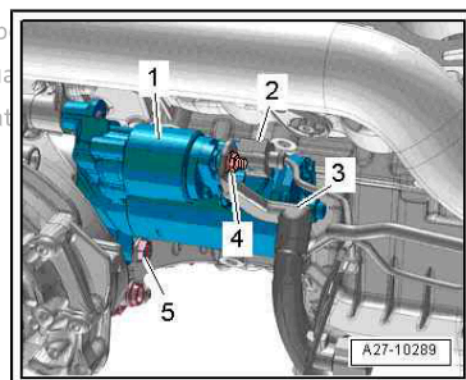
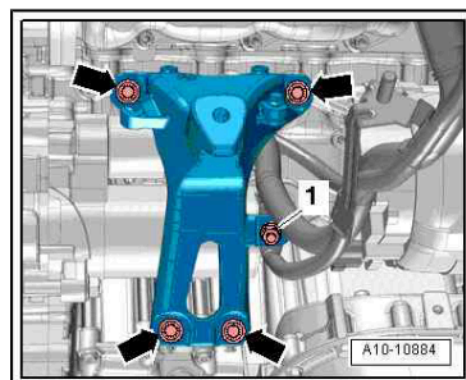
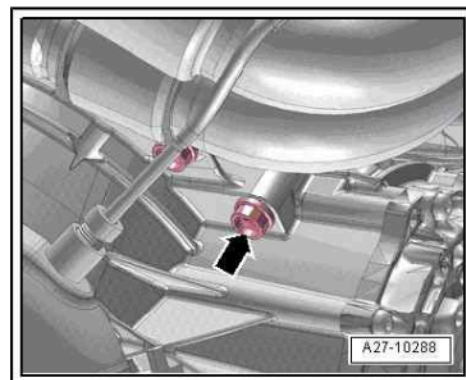
### Installing

Installation is carried out in reverse order; note the following:

- Connect battery. Steps required ➔ [page 13](#) .

### Tightening torques

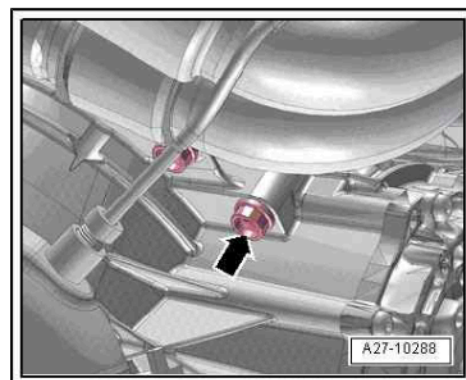
- ◆ ➔ "4.1.2 Exploded view - starter, vehicles with 6-cyl. or 8-cyl. engine", [page 59](#)



## 4.2.9 Removing and installing starter - vehicles with 3.0 ltr. biturbo TDI engine

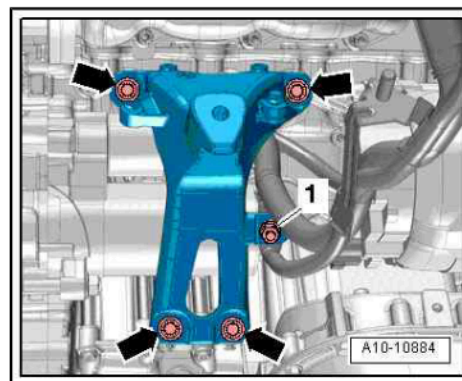
### Removing

- Remove bolt -arrow-.
- From gearbox side (bottom right)
- Remove alternator ➔ [page 52](#) .

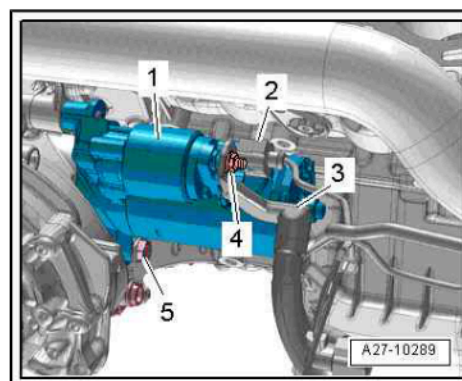




- Remove engine mountings ⇒ Rep. gr. 10 ; Assembly mountings; Removing and installing engine mountings .
- Remove nut -1- and move earth cable clear at engine support.
- Remove bolts -arrows- and detach engine support (right-side).



- Unplug connector -2- by sliding locking element to rear and pressing down release catch.
- Unscrew nut -4- and detach B+ wire -3- from solenoid switch.
- Remove bolt -5- and detach starter -1-.



#### Installing

Installation is carried out in reverse sequence.

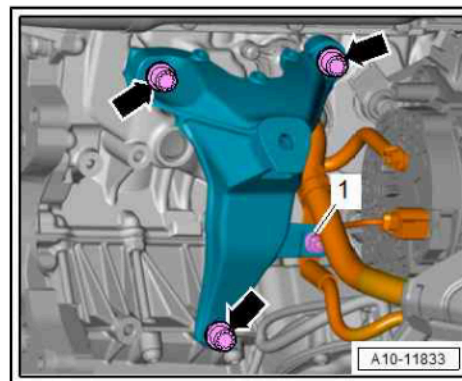
#### Tightening torques

- ♦ ⇒ [“4.1.2 Exploded view - starter, vehicles with 6-cyl. or 8-cyl. engine”, page 59](#)

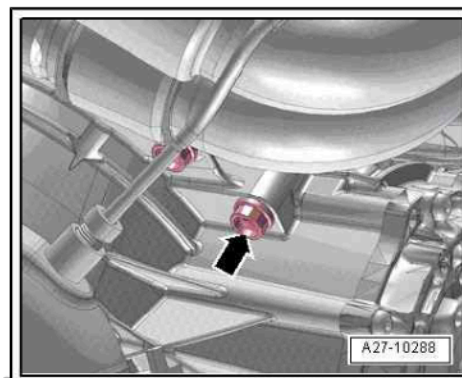
### 4.2.10 Removing and installing starter - vehicles with 3.0 ltr. TDI engine (EA897 generation I)

#### Removing

- Remove alternator ⇒ [page 55](#) .
- Remove engine mounting (right-side) ⇒ Rep. gr. 10 ; Assembly mountings; Removing and installing engine mountings .
- Remove nut -1- and move earth cable clear at engine support.
- Remove bolts -arrows- and detach engine support (right-side).



- Remove noise insulation (rear) ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .
- Remove heat shield for drive shaft (right-side) ⇒ Running gear, axles, steering; Rep. gr. 40 ; Drive shaft; Removing and installing heat shield for drive shaft .
- Unscrew bolt -arrow- from gearbox side using extensions and joints.



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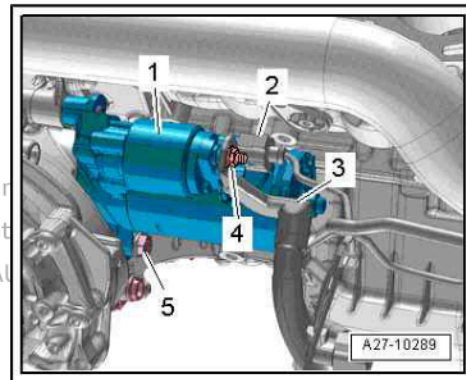
- Unplug connector -2- by sliding locking element to rear and pressing down release catch.
- Unscrew nut -4- and detach B+ wire -3- from solenoid switch.
- Remove bolt -5- and detach starter -1-.

#### Installing

Installation is carried out in reverse sequence.

#### Tightening torques

- ◆ ⇒ "4.1.2 Exploded view - starter, vehicles with 6-cyl. or 8-cyl. engine", page 59







## 5 Start/stop system

⇒ ["5.1 Overview of fitting locations - start/stop system", page 74](#)

⇒ ["5.2 Removing and installing voltage stabiliser", page 75](#)

### 5.1 Overview of fitting locations - start/stop system

1 - Bracket

- For voltage stabiliser - J532-

2 - Nut

- 3 Nm

3 - Start/stop operation button - E693-

- Removing and installing  
⇒ ["2.13 Removing and installing switches in dash panel", page 333](#)

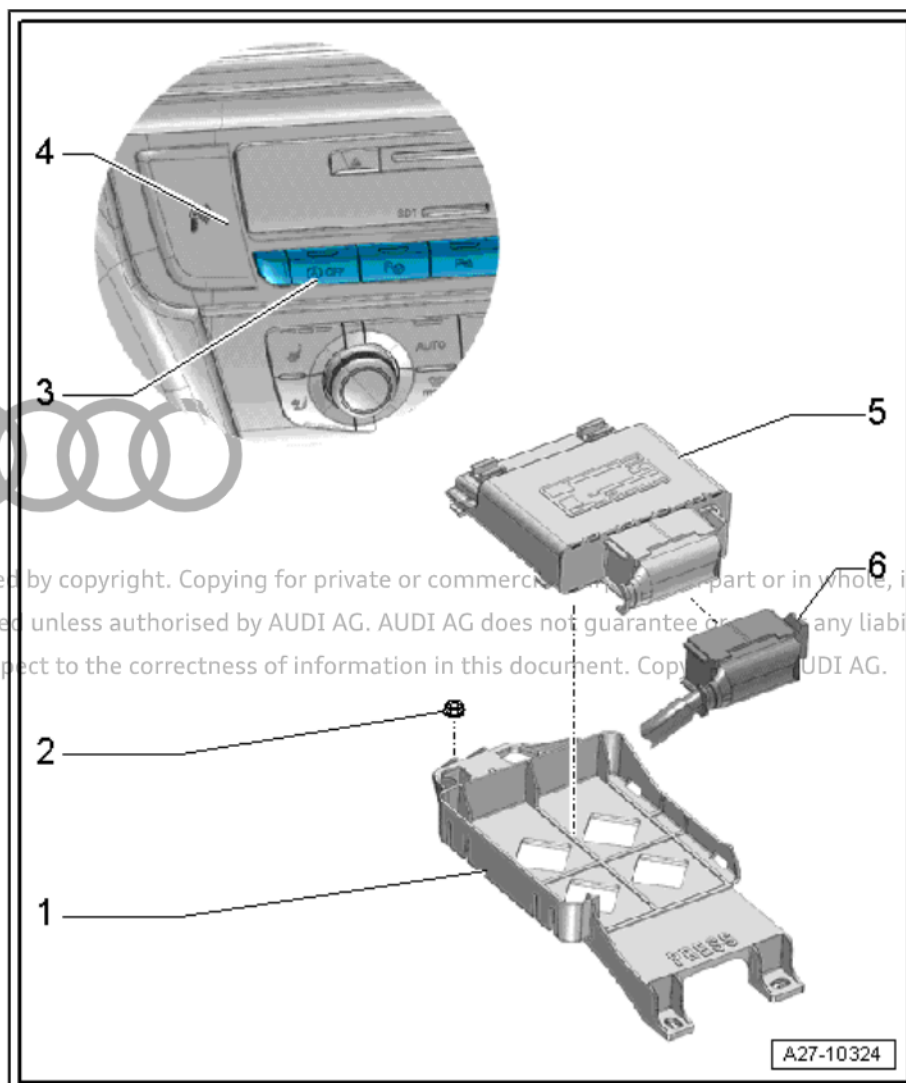
4 - Trim

- For control unit 1 for information electronics - J794-

5 - Voltage stabiliser - J532-

- Removing and installing  
⇒ [page 75](#)

6 - Electrical connector







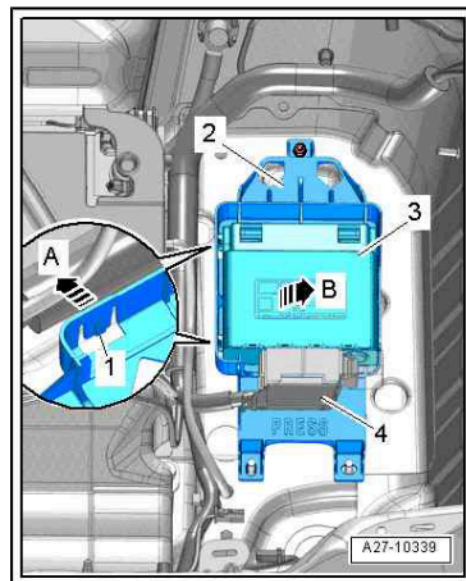
## 5.2 Removing and installing voltage stabiliser

### Removing

- Switch off ignition.
- Take hold of grip to lift luggage compartment floor covering and fold it towards front.
- Remove lining for spare wheel well (if fitted) ⇒ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim panels; Removing and installing lining for spare wheel well .
- Release retaining tabs -1- -arrow A- and pull voltage stabiliser - J532- -item 3- out of bracket -2- -arrow B-.
- Unplug electrical connector -4-.

### Installing

Installation is carried out in reverse sequence.



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## 6 Adaptive cruise control

⇒ "6.1 Overview of fitting locations - adaptive cruise control", page 76

⇒ "6.2 Removing and installing adaptive cruise control unit", page 77

⇒ "6.3 Calibrating adaptive cruise control", page 80

### 6.1 Overview of fitting locations - adaptive cruise control

#### 1 - Quick-release fastener

- 3x
- Renew after removing

#### 2 - Retainer

- Removing and installing  
⇒ [page 77](#)

#### 3 - Bolt

- 2.5 Nm

#### 4 - Connector

- Check for damage, contact corrosion and moisture, and repair if necessary ⇒ Electrical system; General information; Rep. gr. 97 ; Repairing wiring harnesses and connectors

#### 5 - Cover

#### 6 - Adaptive cruise control unit

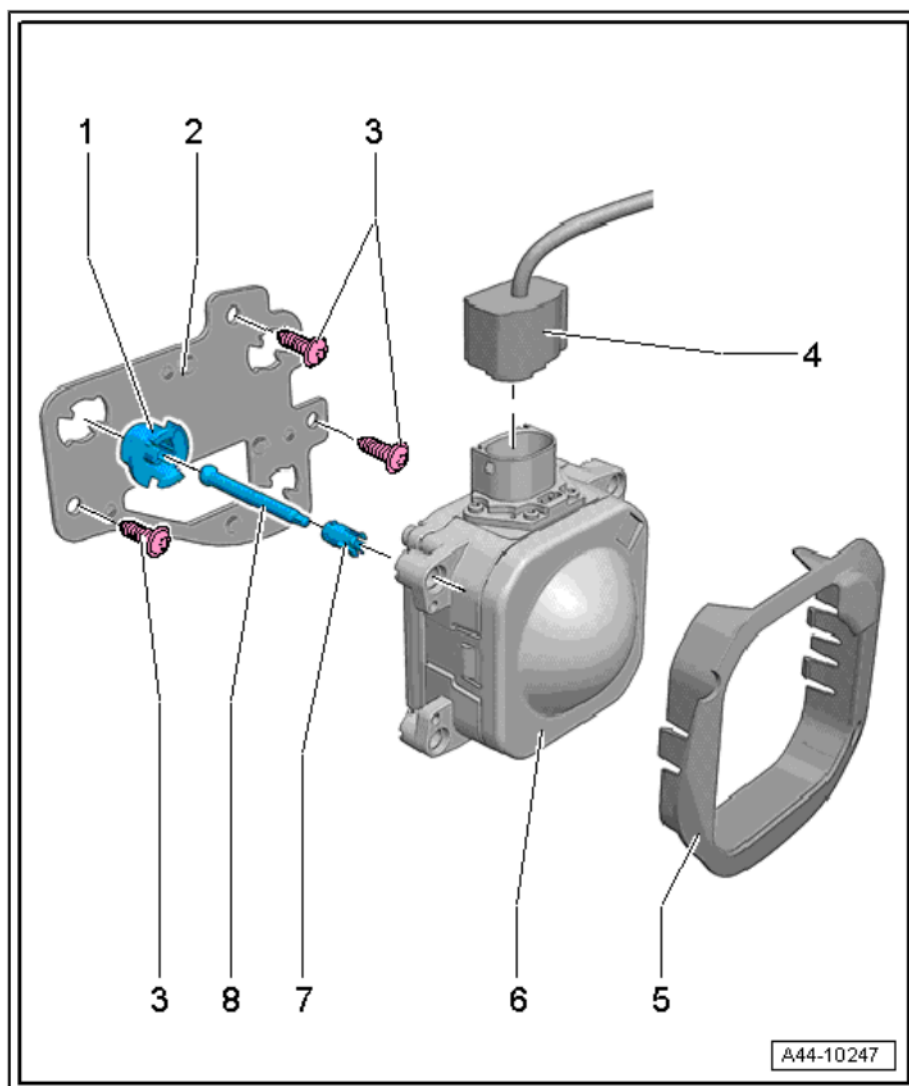
- Right-side: adaptive cruise control unit - J428-
- Left-side: control unit 2 for adaptive cruise control - J850-
- Removing and installing  
⇒ [page 77](#)

#### 7 - Clip

- Must always be renewed if stud -item 8- was removed
- Renewing ⇒ [page 78](#)

#### 8 - Stud

- Note setting dimension ⇒ [page 78](#)



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## 6.2 Removing and installing adaptive cruise control unit

⇒ ["6.2.1 Removing and installing adaptive cruise control unit J428 / J850", page 77](#)

⇒ ["6.2.2 Removing and installing bracket for adaptive cruise control unit J428 / J850", page 77](#)

⇒ ["6.2.3 Renewing clip on adaptive cruise control unit J428 / J850", page 78](#)

### 6.2.1 Removing and installing adaptive cruise control unit - J428- / -J850-



Note

*If control unit is to be renewed, select the "Replace control unit" function for appropriate control unit in ⇒ Vehicle diagnostic tester.*

#### Removing

- Remove air intake grille ⇒ General body repairs, exterior; Rep. gr. 63 ; Bumper (front); Exploded view - bumper cover .
- Remove bolts -1, 2, 3-.



Note

*Clean and dry the control unit in the area around the electrical connector.*

- Unplug electrical connector -arrow-.
- Detach adaptive cruise control unit -A- from bumper cover.

#### Installing

Installation is carried out in reverse order; note the following:



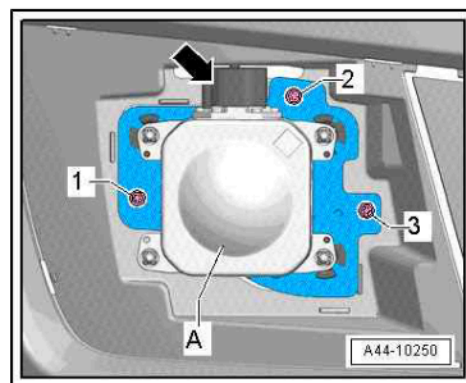
Note

*Check electrical connector for damage, contact corrosion and water ingress and repair if necessary ⇒ Electrical system; General information; Rep. gr. 97 ; Repairing wiring harnesses and connectors .*

- Calibrate adaptive cruise control ⇒ [page 80](#)

**Tightening torques** unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability

- ◆ ⇒ ["6.1 Overview of fitting locations - adaptive cruise control", page 76](#)



### 6.2.2 Removing and installing bracket for adaptive cruise control unit - J428- / -J850-

Special tools and workshop equipment required

- ◆ Digital caliper, 150 mm - VAS 6335-



## Removing

- Remove adaptive cruise control unit ⇒ [page 77](#) .
- Release quick-release fastener -1- in anti-clockwise direction.
- Remove quick-release fastener from studs.
- Detach bracket -2- from adaptive cruise control unit -3-.

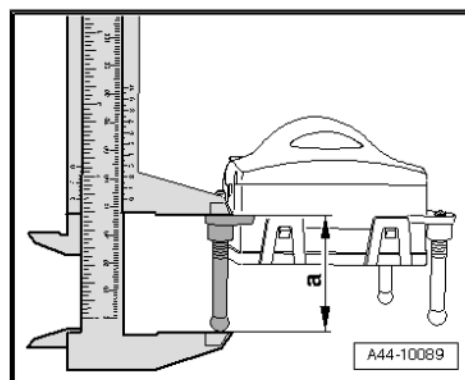
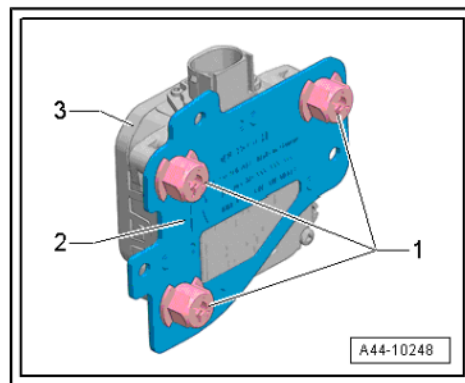
## Installing

Install in reverse order, paying attention to the following:

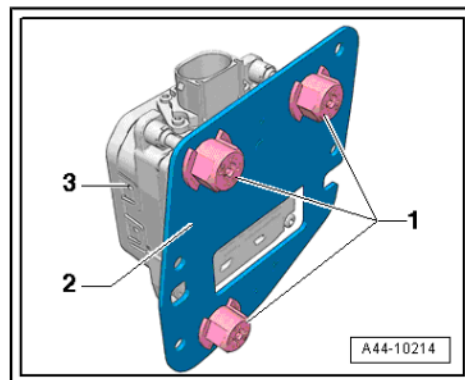


### Note

- ◆ *Renew quick-release fastener.*
- ◆ *Studs in bracket are pre-set and should be adjusted if necessary.*
- ◆ *If studs were removed, clips on adaptive cruise control unit must be renewed ⇒ [page 78](#) .*
- Set control unit down on a soft and clean surface.
- Use digital caliper -VAS 6335- to measure dimension -a- on all studs and adjust if necessary.
- Dimension -a- = 43.3 mm



- Fit bracket -2- onto adaptive cruise control unit -item 3-.
- Carefully press a new quick-release fastener -4- onto the stud -2-.
- Lock quick-release fastener onto retaining plate by turning it clockwise as far as stop.



## 6.2.3 Renewing clip on adaptive cruise control unit -J428- / -J850-



### Note

- ◆ *If studs were removed, clips on adaptive cruise control unit must be renewed.*
- ◆ *It is not possible to remove the clips without irreparably damaging them.*

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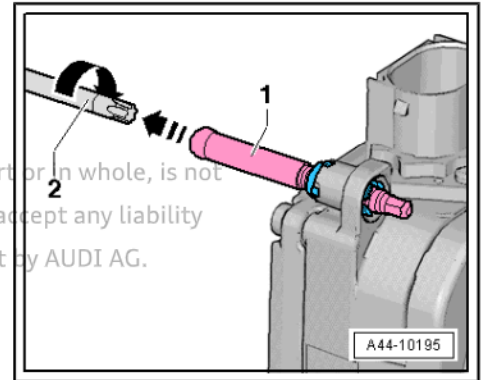




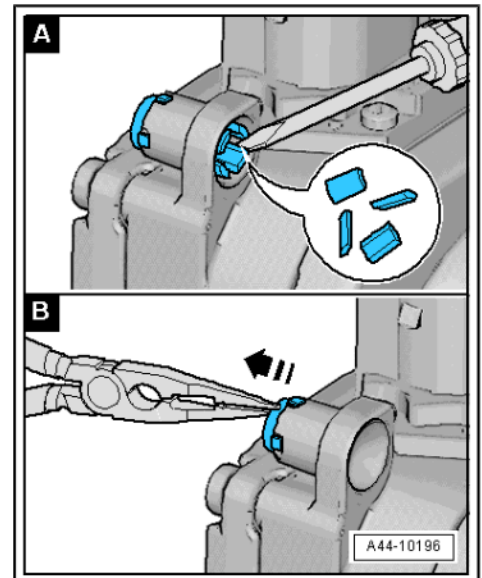
## Procedure

- Remove bracket for adaptive cruise control unit ➔ [page 77](#) .
- Remove stud -1- using a suitable tool -2-.

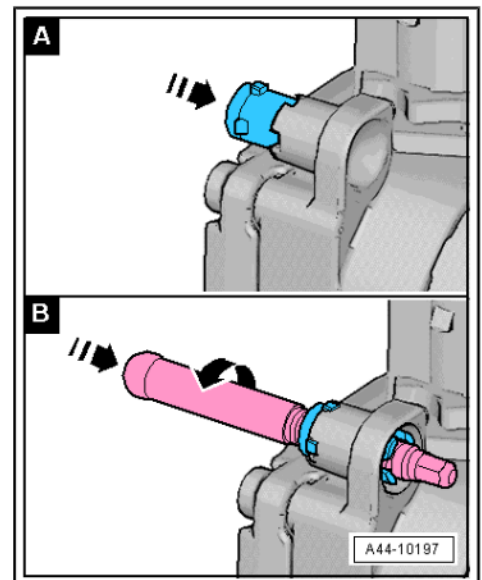
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- Insert a screwdriver between hook and housing.
- Using the screwdriver, bend each hook outwards towards the centre until it audibly breaks off.
- To avoid broken hooks becoming caught in housing, remove hooks from inside clip with long-nose pliers.

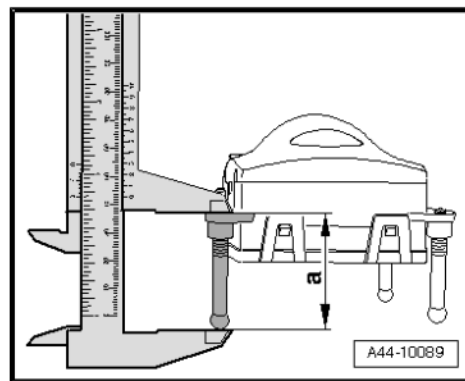


- Insert new clip into bore in housing from left and press on by hand until it engages audibly.
  - The lugs on the clip must sit correctly in the recesses.
- Insert stud.
  - Stud must be parallel with bore and correctly aligned with clip.





- Screw stud into adaptive cruise control unit as far as dimension -a-.
- Dimension -a- = 43.3 mm
- Repeat procedure for other clips if necessary.



## 6.3 Calibrating adaptive cruise control

Before starting calibration work, check whether the vehicle is fitted with a night vision system. If this is the case, the camera for the night vision system must first be calibrated (depending on the damage).

### Requirements

- The adaptive cruise control unit must be calibrated in the following situations:
- If adaptive cruise control unit -J428- / -J850- has been renewed.
- If adaptive cruise control unit -J428- / -J850- has been removed and installed.
- If the front bumper cover has been damaged, for instance when parking the car.
- If the front bumper has been loosened, adjusted, or removed and installed.
- If the rear axle toe setting has been adjusted.
- If alignment angle is greater than  $-0.8^\circ$  to  $+0.8^\circ$ .
- If there is excessive vertical alignment of adaptive cruise control unit (system is deactivated due to loss of sensor vision). System operation is impaired by a recurring sensor vision problem which cannot be attributed to a dirty sensor or adverse weather conditions (such as heavy rain, snow or ice, etc.).
- If the event memory contains the entry "no or incorrect basic setting/adaption".

Further procedure ⇒ Running gear, axles, steering; Rep. gr. 44 ; Adaptive cruise control; Calibrating adaptive cruise control system .



## 90 – Gauges, instruments

### 1 Dash panel insert

⇒ [“1.1 Exploded view - dash panel insert”, page 81](#)

⇒ [“1.2 Exploded view - head-up display”, page 83](#)

⇒ [“1.3 Removing and installing dash panel insert with control unit in dash panel insert J285 ”, page 83](#)

⇒ [“1.4 Pin assignment on multi-pin connectors in dash panel insert”, page 86](#)

⇒ [“1.5 Pin assignment on fuel gauge senders”, page 87](#)

⇒ [“1.6 Pin assignment on coolant temperature sender”, page 87](#)

⇒ [“1.7 Removing and installing ambient temperature sensor”, page 88](#)

⇒ [“1.8 Removing and installing control unit for head-up display”, page 89](#)

⇒ [“1.9 Calibrating control unit for head-up display”, page 89](#)

#### 1.1 Exploded view - dash panel insert



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1 - Electrical connector

- ❑ For ambient temperature sensor - G17-

2 - Ambient temperature sensor - G17-

- ❑ Removing and installing ⇒ [page 88](#)

3 - Oil level and oil temperature sender - G266-

- ❑ Removing and installing ⇒ Rep. gr. 17 ; Sump/oil pump; Removing and installing oil level and oil temperature sender - G266-

4 - Oil pressure switch - F22- / oil pressure switch for reduced oil pressure - F378-

- ❑ Removing and installing ⇒ Rep. gr. 17 ; Oil filter/oil pressure switches; Exploded view - oil filter housing/oil pressure switches

5 - Brake fluid level warning contact - F34-

- ❑ Removing and installing ⇒ Brake system; Rep. gr. 47 ; Brake servo/brake master cylinder; Exploded view - brake servo/brake master cylinder

6 - Bolt

- ❑ 2x
- ❑ 3 Nm

7 - Instrument cluster

- ❑ With control unit in dash panel insert - J285-
- ❑ Removing and installing ⇒ [page 83](#)
- ❑ Assignment of contacts at multi-pin connectors ⇒ [page 86](#)

8 - Connector for fibre optic cable

- ❑ Cover with protective cap for wiring harness connector - VAS 6223/9- .

9 - Electrical connector

- ❑ For instrument cluster

10 - Fuel gauge sender - G-

- ❑ Pin assignment ⇒ [page 87](#)

11 - Fuel gauge sender 2 - G169-

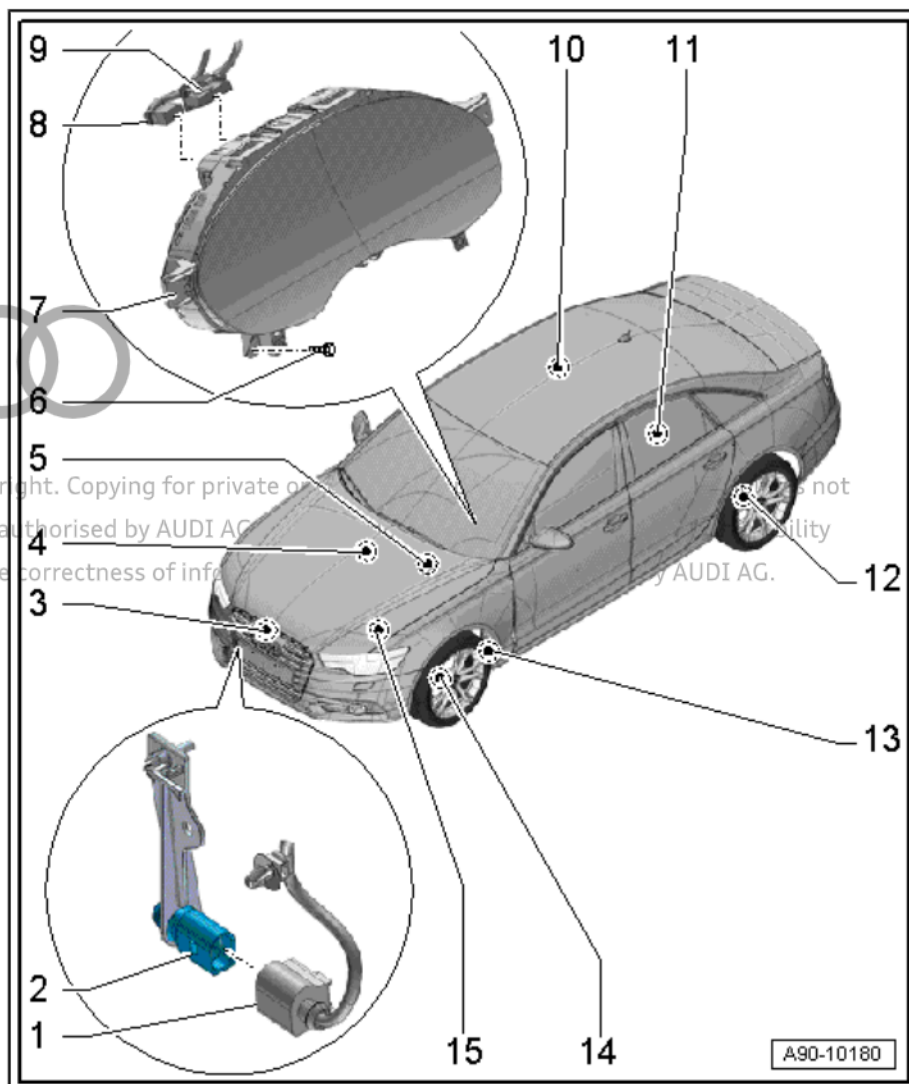
- ❑ Pin assignment ⇒ [page 87](#)

12 - Rear brake pad wear sender

- ❑ Rear left brake pad wear sender - G36- , rear right brake pad wear sender - G37-
- ❑ Removing and installing ⇒ Brake system; Rep. gr. 46 ; Rear brakes; Exploded view - rear brake

13 - Windscreen washer fluid level sender - G33-

- ❑ Removing and installing ⇒ [page 114](#)







#### 14 - Front brake pad wear sender

- ☐ Front left brake pad wear sender - G34- , front right brake pad wear sender - G35-
- ☐ Removing and installing ⇒ Brake system; Rep. gr. 46 ; Front brakes; Exploded view - front brake

#### 15 - Coolant shortage indicator switch - F66-

### 1.2 Exploded view - head-up display

#### 1 - Bolt

- ☐ 4x
- ☐ Tightening torque ⇒ General body repairs, interior; Rep. gr. 70 ; Central tube for dash panel; Exploded view - central tube for dash panel

#### 2 - Bracket

- ☐ For control unit for head-up display
- ☐ Removing and installing ⇒ General body repairs, interior; Rep. gr. 70 ; Central tube for dash panel; Exploded view - central tube for dash panel

#### 3 - Control unit for head-up display - J898-

- ☐ Removing and installing ⇒ [page 89](#)
- ☐ Calibrating ⇒ [page 89](#)

#### 4 - Bolt

- ☐ 5.5 Nm

#### 5 - Bolt

- ☐ 5.5 Nm

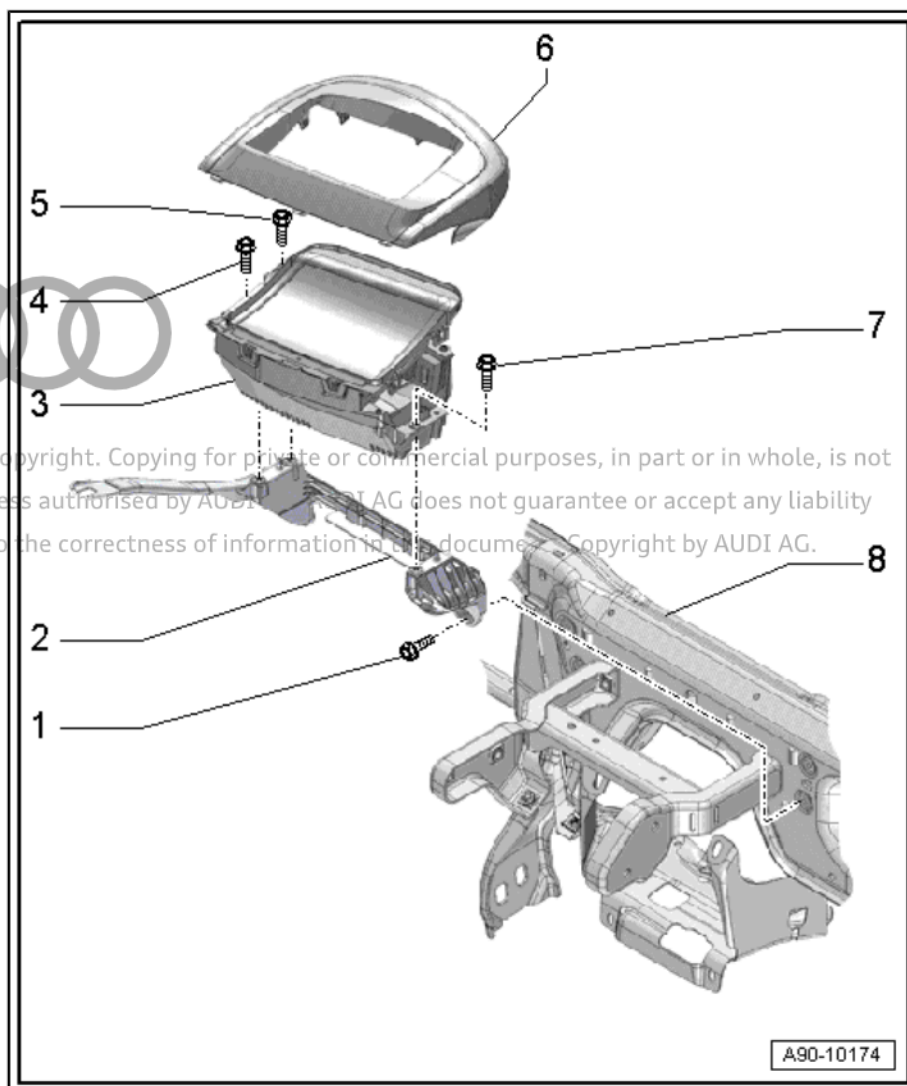
#### 6 - Cover (top)

- ☐ Removing and installing ⇒ General body repairs, interior; Rep. gr. 70 ; Dash panel; Exploded view - dash panel

#### 7 - Bolt

- ☐ 5.5 Nm

#### 8 - Central tube

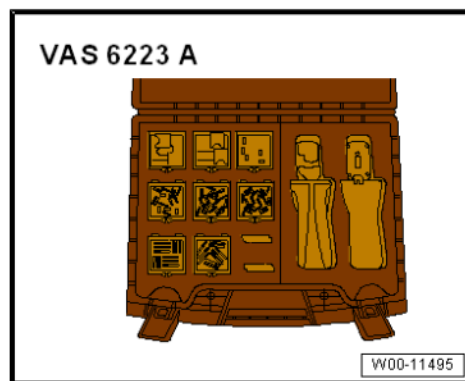


### 1.3 Removing and installing dash panel insert with control unit in dash panel insert - J285-

Special tools and workshop equipment required



- ◆ Protective cap for cable connector - VAS 6223/9- from fibre-optic conductor repair set - VAS 6223A-



#### Note

- ◆ *All warning lamps in instrument cluster are fitted with light-emitting diodes. The instrument cluster must be renewed in the event of a warning lamp failure.*

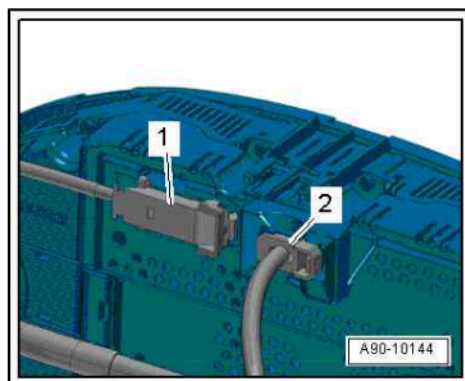
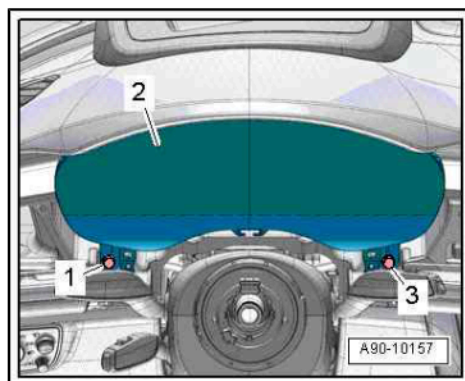
- ◆ *The instrument cluster must not be dismantled.*

- ◆ *Removal of instrument cluster does not involve taking out steering wheel.*

- When renewing instrument cluster with control unit in dash panel insert - J285- select "Replacement" function for appropriate control unit in "Guided Fault Finding" or "Guided Functions" ⇒ Vehicle diagnostic tester.

#### Removing

- Move steering wheel down and to rear as far as possible, using full range of steering column adjuster.
- Remove light switch ⇒ [page 331](#) .
- Remove retaining frame for dash panel insert ⇒ General body repairs, interior; Rep. gr. 70 ; Dash panel; Removing and installing retaining frame for dash panel insert .
- Remove bolts -1, 3-.
- Pull out instrument cluster -2- until it makes contact with steering wheel.
- Unplug connector -2- for fibre optic cable and electrical connector -1-.



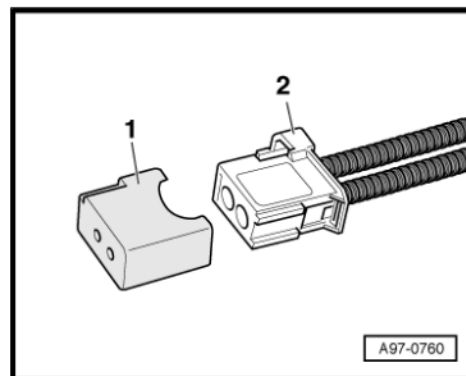


- Seal open connector plug -2- of fibre optic cable with protective cap for cable connector - VAS 6223/9- -item 1-.



#### Note

*Protective cap prevents contamination of or mechanical damage to end face of fibre optic cable which would impair light transmission.*

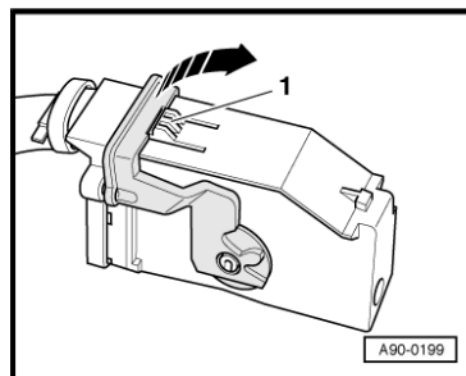


- Unplug electrical connector by releasing catch -1- and moving retaining clip in direction of -arrow-.
- Take out instrument cluster towards front passenger side between steering wheel and dash panel.

#### Installing

Installation is carried out in reverse order; note the following:

- Continue to follow instructions on display of vehicle diagnostic tester for new instrument cluster.



#### Tightening torques

- ◆ ⇒ ["1.1 Exploded view - dash panel insert", page 81](#)

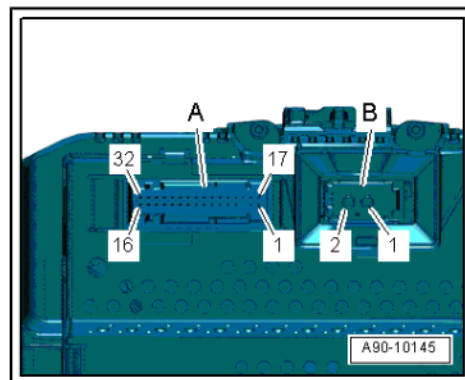
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## 1.4 Pin assignment on multi-pin connectors in dash panel insert

32-pin connector, grey -item A-

- 1 - MOST bus, ring circuit break diagnostic
- 2 - Not used
- 3 - Dash panel insert CAN bus (Low)
- 4 - Dash panel insert CAN bus (High)
- 5 - Earth, fuel gauge sender
- 6 - Fuel gauge sender - G-
- 7 - Fuel gauge sender - G-
- 8 - Display unit button - E506- (reset button)
- 9 - Fuel gauge sender 2 - G169-
- 10 - Fuel gauge sender 2 - G169-
- 11 - Not used
- 12 - Not used
- 13 - Not used
- 14 - Not used
- 15 - Not used
- 16 - Not used
- 17 - Not used
- 18 - Not used
- 19 - Control unit for night vision system - J853- "-"
- 20 - Control unit for night vision system - J853- "+"
- 21 - Not used
- 22 - Not used
- 23 - Not used
- 24 - Not used
- 25 - Not used
- 26 - Not used
- 27 - Not used
- 28 - Not used
- 29 - Terminal 31
- 30 - Terminal 31
- 31 - Terminal 30
- 32 - Terminal 30



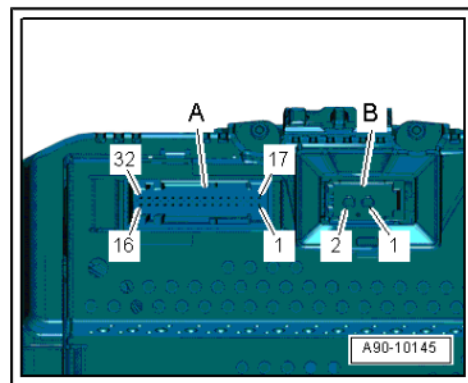
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Connection for optical MOST bus (fibre optic cable) -item B-

- 1 - MOST bus input
- 2 - MOST bus output



## 1.5 Pin assignment on fuel gauge senders

⇒ ["1.5.1 Pin assignment on fuel gauge sender G ", page 87](#)

⇒ ["1.5.2 Pin assignment on fuel gauge sender 2 G169 ", page 87](#)

### 1.5.1 Pin assignment on fuel gauge sender - G-

Unplug electrical connector at sealing flange of fuel tank; for procedure refer to ⇒ Rep. gr. 20 ; Fuel delivery unit/fuel gauge sender; Removing and installing fuel gauge sender - G- .



Note

*Exact assignment of contacts can be found in applicable current flow diagram ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.*

### 1.5.2 Pin assignment on fuel gauge sender 2 - G169-

Unplug electrical connector at sealing flange of fuel tank; procedure ⇒ Rep. gr. 20 ; Fuel delivery unit/fuel gauge sender; Removing and installing fuel gauge sender 2 - G169- .



Note

*Exact assignment of contacts can be found in applicable current flow diagram ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.*

## 1.6 Pin assignment on coolant temperature sender

⇒ ["1.6.1 Pin assignment at coolant temperature sender G62 ", page 87](#)

⇒ ["1.6.2 Pin assignment on coolant temperature senders G62 / G83 - vehicles with TDI engine", page 88](#)

### 1.6.1 Pin assignment at coolant temperature sender - G62-

- Unplug electrical connector at coolant temperature sender - G62- ; Procedure ⇒ Rep. gr. 19 ; Coolant pump/thermostat assembly; Exploded view - coolant pump/thermostat .



#### Note

*Exact assignment of contacts can be found in applicable current flow diagram ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.*

### 1.6.2 Pin assignment on coolant temperature senders -G62- / -G83- - vehicles with TDI engine

Unplug electrical connector at radiator outlet coolant temperature sender - G83- ; Procedure ⇒ Rep. gr. 19 ; Coolant pump/thermostat assembly; Exploded view - coolant pump/thermostat .



#### Note

*Exact assignment of contacts can be found in applicable current flow diagram ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.*

### 1.7 Removing and installing ambient temperature sensor

#### Removing

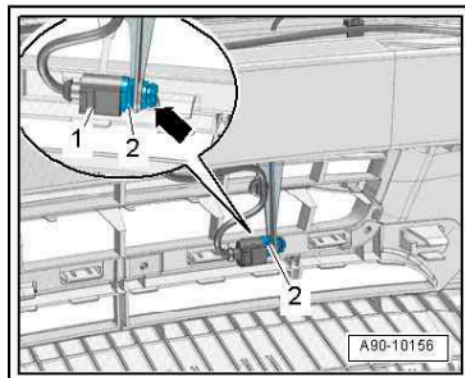
- Remove lock carrier cover ⇒ General body repairs, exterior; Rep. gr. 63 ; Bumper (front); Removing and installing attachments .
- Carefully compress retaining clips -arrow- and pull ambient temperature sensor - G17- -item 2- out of retainer.
- Unplug electrical connector -1-.

#### Installing

Installation is carried out in reverse order; note the following:

After completing the repair, carry out the following steps on the operating and display unit for front air conditioning system - E87- using the "Guided Fault Finding" function of the ⇒ Vehicle diagnostic tester:

- Interrogate event memory and erase any entries displayed.



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## 1.8 Removing and installing control unit for head-up display



### Caution

#### *Risk of damage*

- ◆ *When removing the control unit for head-up display - J898- , do not unscrew any bolts other than those shown here.*
- ◆ *If the bolts for the upper section of the housing are removed, the control unit for head-up display - J898- must be renewed.*
- ◆ *If the control unit for head-up display -J898- is dropped by mistake, it must be renewed (internal components may be damaged even though no external damage is visible).*
- ◆ *When fitting the control unit for head-up display -J898- , do not exert any pressure on the upper section of the housing, otherwise the control unit may have to be renewed.*

### Removing

- Remove dash panel cover (top) ⇒ General body repairs, interior; Rep. gr. 70 ; Dash panel; Exploded view - dash panel .
- Cover control unit -3- with a soft cloth.
- Remove windscreen ⇒ General body repairs, exterior; Rep. gr. 64 ; Windscreen; Removing and installing windscreen .
- Remove bolts -1, 2, 5-.
- Lift out control unit slightly and unplug electrical connector -4-.
- Detach control unit.

### Installing

Installation is carried out in reverse order; note the following:

- Fit control unit and tighten bolts.
- Locate windscreen in position and secure temporarily, but do not bond in glass.
- Switch on ignition and check function of control unit.
  - A number should be visible on the windscreen.
- Calibrate control unit for head-up display ⇒ [page 89](#) .

### Tightening torques

- ◆ ⇒ ["1.2 Exploded view - head-up display", page 83](#)

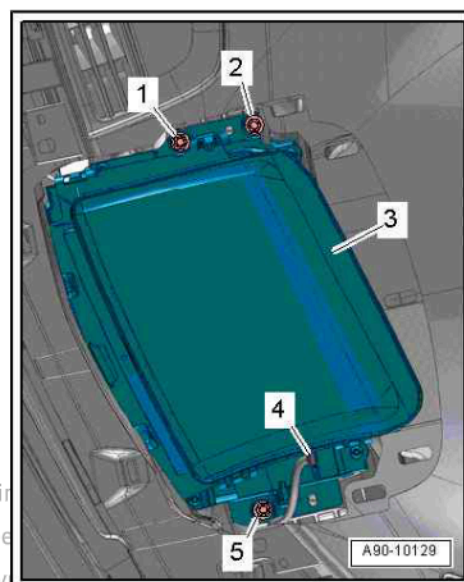
## 1.9 Calibrating control unit for head-up display

Special tools and workshop equipment required

- ◆ Calibration board for head-up display on Audi A6 - VAS 6657-

### Requirements

- The control unit for head-up display must be calibrated in the following situations:





- If the control unit for head-up display - J898- has been renewed.
- If the windscreen has been removed and installed.
- If the event memory contains the entry "no or incorrect basic setting/adaption".

#### Preparations

- Vehicle must be standing on a smooth and level surface.
- Apply parking brake – the vehicle must not be moved while the calibration procedure is being performed.
- Fold down and disengage sun visors on both sides and swivel round to side windows.
- Attach calibration board -VAS 6657- to centre mountings for sun visors -1 and 2-.

#### Performing calibration

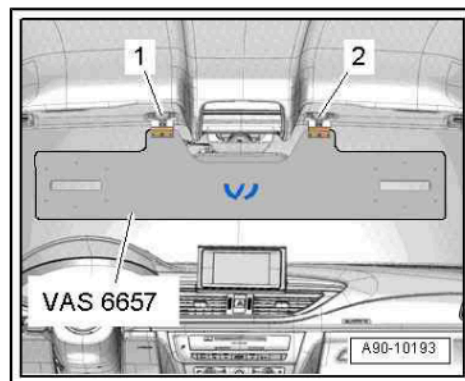
⇒ Vehicle diagnostic tester must be connected.

- Select **Diagnosis** mode and begin diagnosis.
- Select **Test plan** tab.
- Choose **Select own test** and select following options one after the other:

- ◆ Body
- ◆ Electrical system
- ◆ 01 - Self-diagnosis compatible systems
- ◆ 82 - control unit for head-up display - J898
- ◆ 82 - Control unit for head-up display, functions
- ◆ 82 - Calibration of head-up display

Further instructions are given by ⇒ Vehicle diagnostic tester during calibration procedure.

- After completing calibration of control unit for head-up display, exit "Calibration", switch off ignition and unplug diagnostic connector.



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## 2 Horn

⇒ "2.1 Exploded view - horn", page 91

⇒ "2.2 Removing and installing treble horn H2 / bass horn H7",  
page 93

### 2.1 Exploded view - horn

⇒ "2.1.1 Exploded view - horn, vehicles without high-voltage system", page 91

⇒ "2.1.2 Exploded view - horn, vehicles with high-voltage system",  
page 92

#### 2.1.1 Exploded view - horn, vehicles without high-voltage system

##### 1 - Bolt

- ❑ Tightening torque ⇒  
General body repairs,  
exterior; Rep. gr. 63 ;  
Bumper (front); Exploded  
view - impact bar

##### 2 - Treble horn - H2-

- ❑ Version 1
- ❑ One horn above the other
- ❑ Removing and installing  
⇒ page 93

##### 3 - Bass horn - H7-

- ❑ Version 1
- ❑ One horn above the other
- ❑ Removing and installing  
⇒ page 93

##### 4 - Nut

- ❑ 11 Nm

##### 5 - Bracket

- ❑ For horns (right-side)
- ❑ Removing and installing  
⇒ page 94

##### 6 - Nut

- ❑ 11 Nm

##### 7 - Bolt

- ❑ 8 Nm

##### 8 - Impact bar mounting (right-side)

##### 9 - Nut

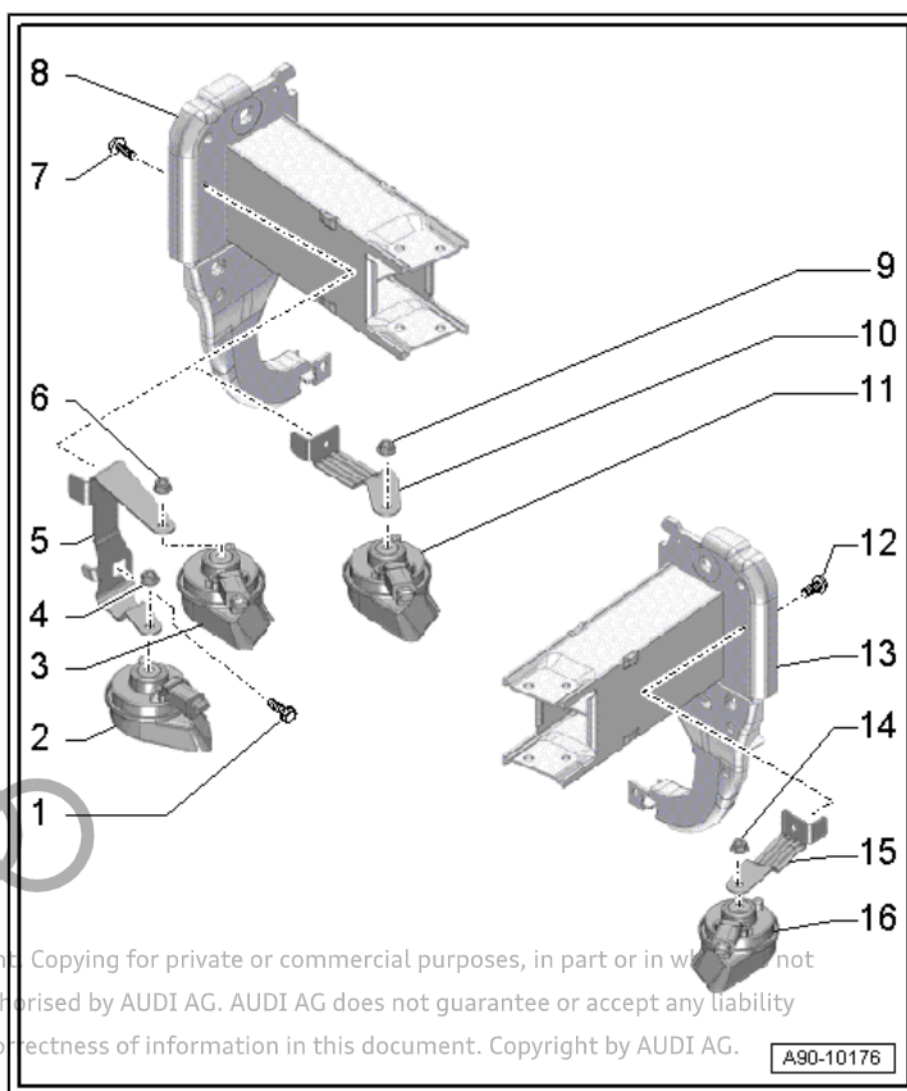
- ❑ 11 Nm

##### 10 - Bracket

- ❑ For horn (right-side)
- ❑ Removing and installing ⇒ page 94

##### 11 - Bass horn - H7-

- ❑ Version 2



A90-10176

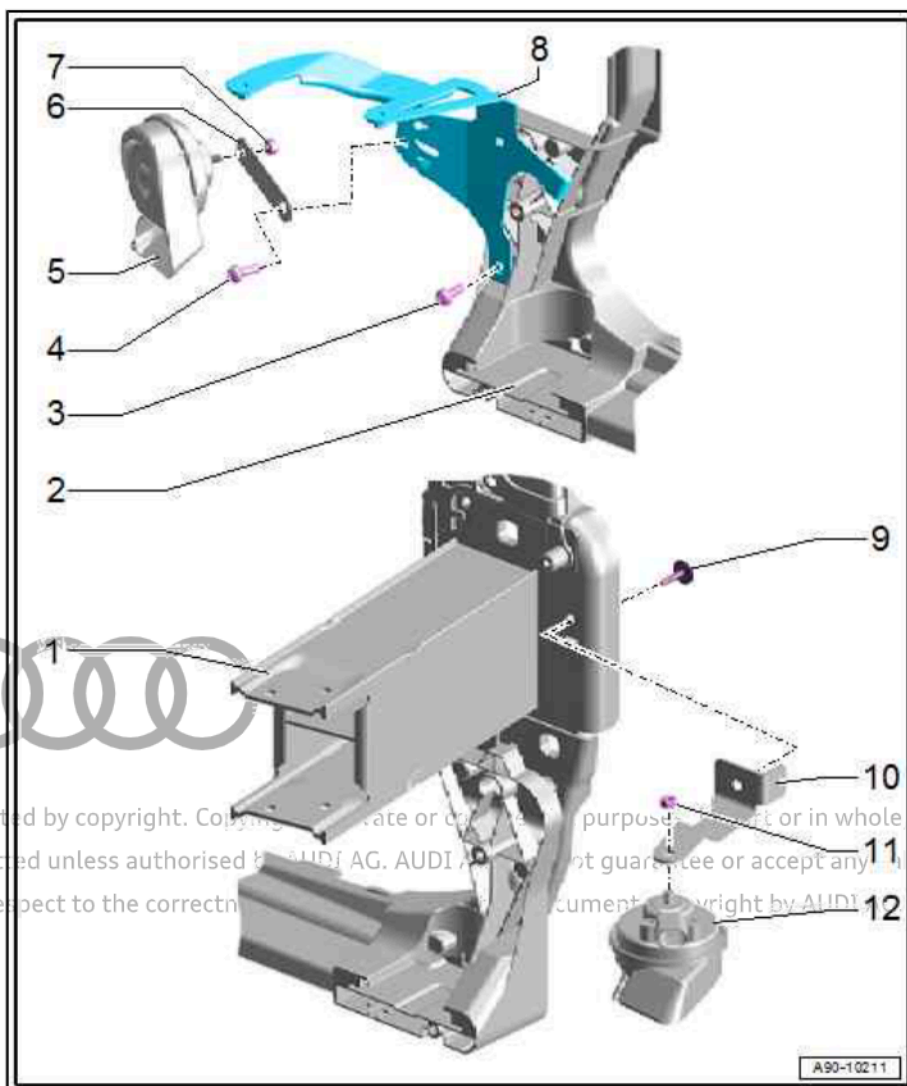




- ☐ Removing and installing ⇒ [page 93](#)
- 12 - Bolt
  - ☐ 8 Nm
- 13 - Impact bar mounting (left-side)
- 14 - Nut
  - ☐ 11 Nm
- 15 - Bracket
  - ☐ For horn (left-side)
  - ☐ Removing and installing ⇒ [page 94](#)
- 16 - Treble horn - H2-
  - ☐ Version 2
  - ☐ Removing and installing ⇒ [page 93](#)

## 2.1.2 Exploded view - horn, vehicles with high-voltage system

- 1 - Impact bar mounting (right-side)
- 2 - Lock carrier
- 3 - Bolt
  - ☐ 2x
  - ☐ Tightening torque ⇒  
Brake system; Rep. gr.  
47 ; Vacuum system;  
Exploded view - electric  
vacuum pump
- ☐
- 4 - Bolt
  - ☐ 16 Nm
- 5 - Bass horn - H7-
  - ☐ Removing and installing  
⇒ [page 93](#)
- 6 - Spring clip
- 7 - Nut
  - ☐ 9 Nm
- 8 - Bracket
  - ☐ For vacuum pump for  
brakes - V192- and horn  
(right-side)
- 9 - Bolt
  - ☐ 8 Nm
- 10 - Bracket
  - ☐ For horn (left-side)
  - ☐ Removing and installing  
⇒ [page 94](#)
- 11 - Nut
  - ☐ 9 Nm
- 12 - Treble horn - H2-
  - ☐ Removing and installing ⇒ [page 93](#)





## 2.2 Removing and installing treble horn - H2- / bass horn - H7-

⇒ ["2.2.1 Removing and installing treble horn H2 / bass horn H7 ,  
version 1", page 93](#)

⇒ ["2.2.2 Removing and installing treble horn H2 / bass horn H7 ,  
version 2", page 93](#)

⇒ ["2.2.3 Removing and installing bracket for horns - version 1",  
page 94](#)

⇒ ["2.2.4 Removing and installing bracket for horns - version 2",  
page 94](#)

### 2.2.1 Removing and installing treble horn - H2- / bass horn - H7- , version 1

#### Removing

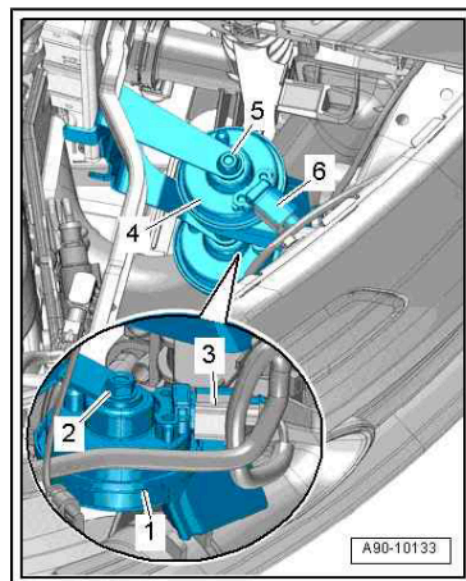
- Remove bumper cover (front) ⇒ General body repairs, exterior; Rep. gr. 63 ; Bumper (front); Removing and installing bumper cover .
- Remove nuts -2, 5-.
- Detach horns -1, 4- from bracket.
- Unplug electrical connectors -3, 6-.

#### Installing

Installation is carried out in reverse sequence.

#### Tightening torques

- ◆ ⇒ ["2.1 Exploded view - horn", page 91](#)



### 2.2.2 Removing and installing treble horn - H2- / bass horn - H7- , version 2

#### Removing

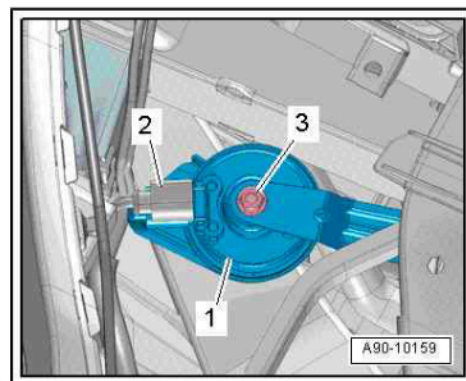
- Remove bumper cover (front) ⇒ General body repairs, exterior; Rep. gr. 63 ; Bumper (front); Removing and installing bumper cover .
- Unscrew nut -3-.
- Detach horn -1- from bracket.
- Unplug electrical connector -2-.

#### Installing

Installation is carried out in reverse sequence.

#### Tightening torques

- ◆ ⇒ ["2.1 Exploded view - horn", page 91](#)



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## 2.2.3 Removing and installing bracket for horns - version 1

### Removing

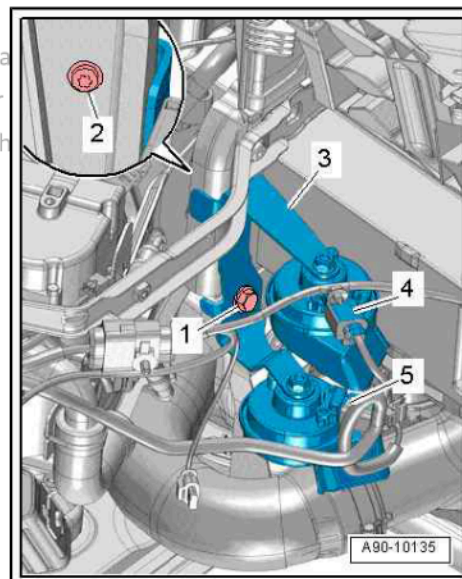
- Remove bumper cover (front) ⇒ General body repairs, exterior; Rep. gr. 63 ; Bumper (front); Removing and installing bumper cover .
- Unplug electrical connectors -4, 5-.
- Remove bolts -1, 2-.
- Detach bracket -3- with horns.

### Installing

Installation is carried out in reverse order; note the following:

### Tightening torques

- ◆ ⇒ ["2.1 Exploded view - horn", page 91](#)
- ◆ ⇒ General body repairs, exterior; Rep. gr. 63 ; Bumper (front); Exploded view - impact bar



## 2.2.4 Removing and installing bracket for horns - version 2

### Removing

- Remove bumper cover (front) ⇒ General body repairs, exterior; Rep. gr. 63 ; Bumper (front); Removing and installing bumper cover .
- On vehicles with auxiliary heater: Remove bracket for auxiliary heater ⇒ Auxiliary/supplementary heater; Rep. gr. 82 ; Auxiliary/supplementary heater; Overview of fitting locations - auxiliary/supplementary heater .
- Unplug electrical connector -1-.
- Remove bolt -3-.
- Detach bracket -2- with horn.

### Installing

Installation is carried out in reverse sequence.

### Tightening torques

- ◆ ⇒ ["2.1 Exploded view - horn", page 91](#)







## 92 – Windscreen wash/wipe system

### 1 Windscreen wiper system

⇒ [“1.2 Exploded view - windscreen wiper system”, page 96](#)

⇒ [“1.3 Moving windscreen wipers to service position”, page 98](#)

⇒ [“1.4 Removing and installing wiper blade”, page 98](#)

⇒ [“1.5 Removing and installing wiper arms”, page 99](#)

⇒ [“1.6 Adjusting wiper arms”, page 100](#)

⇒ [“1.7 Removing and installing wiper motor V”, page 101](#)

⇒ [“1.8 Renewing windscreen wiper motor”, page 103](#)

⇒ [“1.9 Removing and installing rain and light sensor”, page 103](#)

#### 1.1 Overview of fitting locations - windscreen wiper system

1 - Washer jet for camera for night vision system - R212-

- ☐ Exploded view  
⇒ [page 125](#)

2 - Headlight washer jet

- ☐ Exploded view  
⇒ [page 125](#)

3 - Wiper arm

- ☐ Exploded view  
⇒ [page 96](#)

4 - Washer jet

- ☐ Exploded view  
⇒ [page 111](#)

5 - Grommet

- ☐ For washer fluid hose in bonnet

6 - Grommet

- ☐ For washer fluid hose on wing panel

7 - Wiper motor - V-

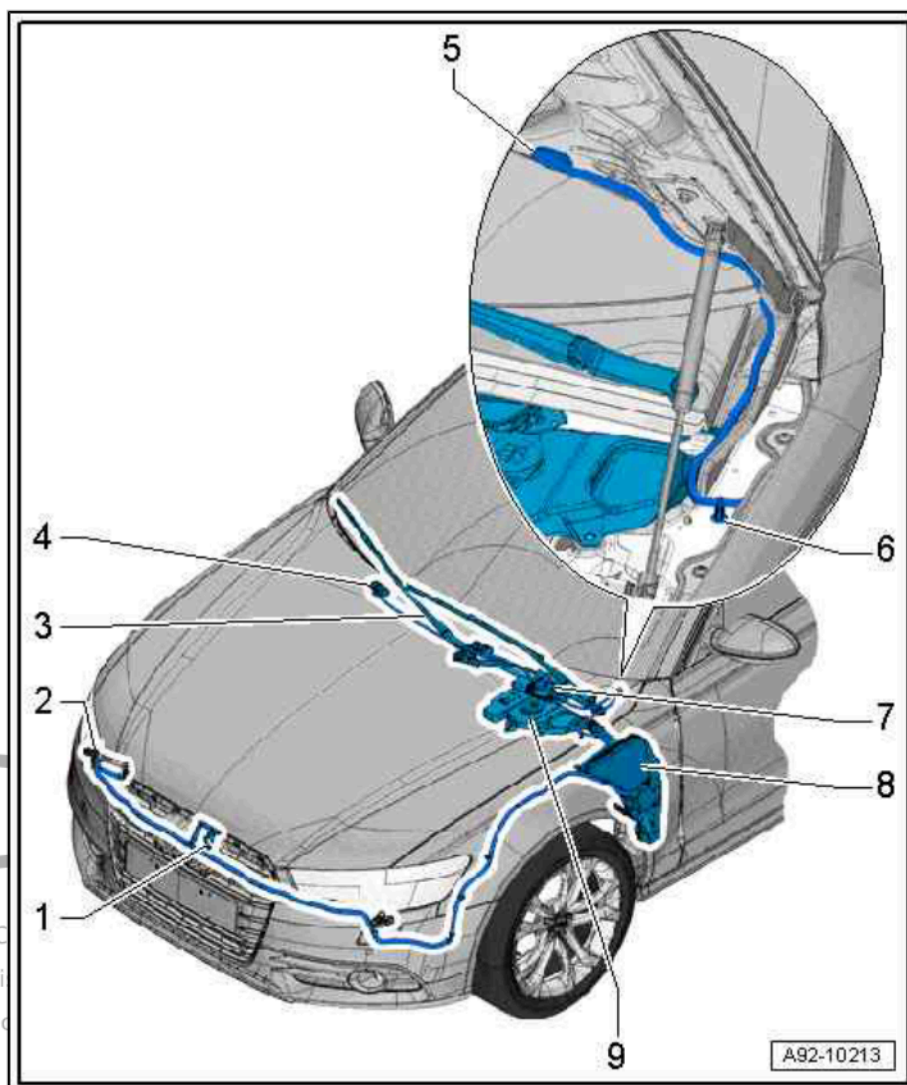
- ☐ With wiper motor control unit - J400-
- ☐ Exploded view  
⇒ [page 96](#)

8 - Washer fluid reservoir

- ☐ Exploded view  
⇒ [page 111](#)

9 - Filler neck

- ☐ For washer fluid reservoir
- ☐ Exploded view  
⇒ [page 111](#)





## 1.2 Exploded view - windscreen wiper system

⇒ "1.2.1 Exploded view - windscreen wiper system", page 96

⇒ "1.2.2 Exploded view - windscreen wiper system, rain and light sensor", page 97

### 1.2.1 Exploded view - windscreen wiper system

#### 1 - Bolt

- ☐ Tightening sequence  
⇒ [page 97](#)

#### 2 - Wiper motor - V-

- ☐ With wiper motor control unit - J400-
- ☐ Removing and installing  
⇒ [page 101](#)
- ☐ Renewing ⇒ [page 103](#)

#### 3 - Bolt

- ☐ Tightening sequence  
⇒ [page 97](#)

#### 4 - Nut

- ☐ 22 Nm

#### 5 - Trim cap

#### 6 - Wiper arm, passenger side (LHD)

- ☐ Different length ⇒ Electronic parts catalogue
- ☐ Removing and installing  
⇒ [page 99](#)
- ☐ Adjusting ⇒ [page 100](#)

#### 7 - Wiper blade, passenger side (LHD)

- ☐ Different length ⇒ Electronic parts catalogue
- ☐ Renewing ⇒ [page 98](#)

#### 8 - Wiper blade, driver side (LHD)

- ☐ Different length ⇒ Electronic parts catalogue
- ☐ Renewing ⇒ [page 98](#)

#### 9 - Wiper arm, driver side (LHD)

- ☐ Different length ⇒ Electronic parts catalogue
- ☐ Removing and installing ⇒ [page 99](#)
- ☐ Adjusting ⇒ [page 100](#)

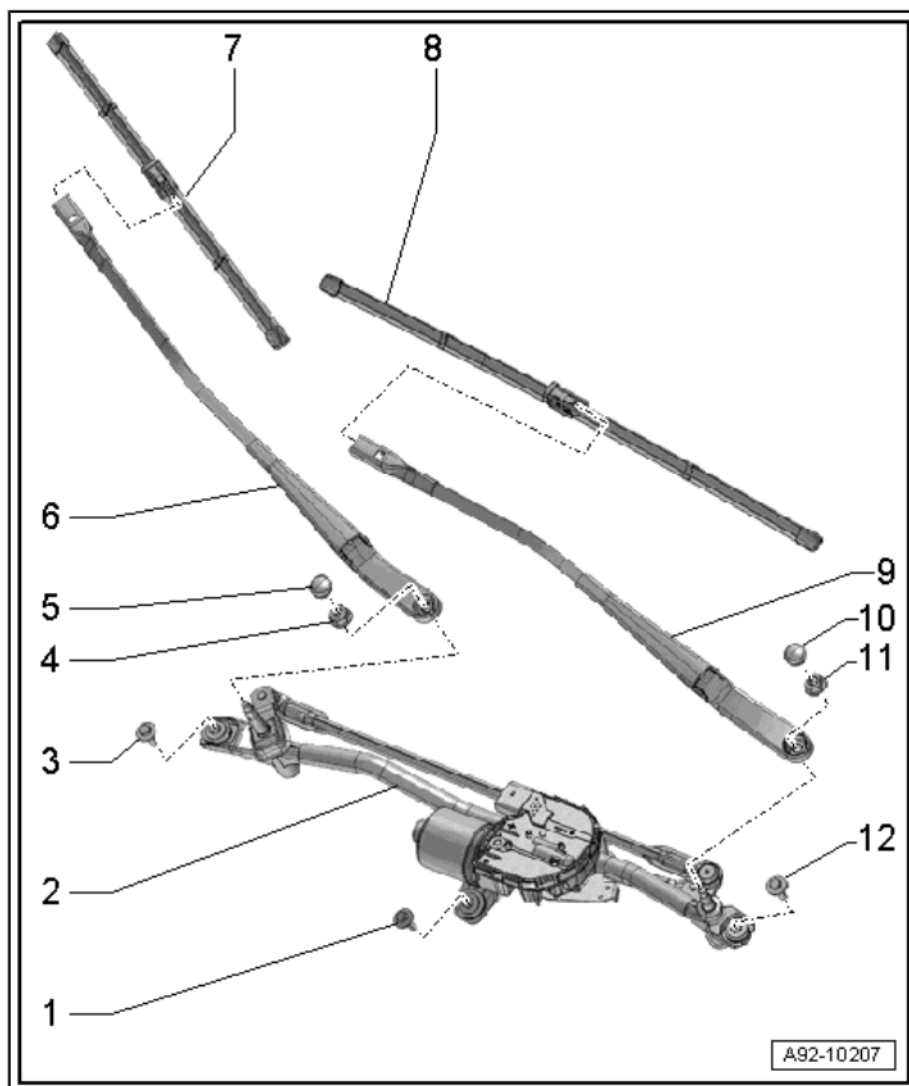
#### 10 - Trim cap

#### 11 - Nut

- ☐ 22 Nm

#### 12 - Bolt

- ☐ Tightening sequence ⇒ [page 97](#)



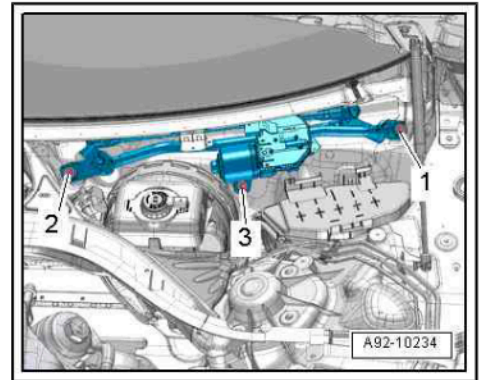




## Wiper motor - tightening torque and tightening sequence

– Tighten bolts in stages in the sequence shown:

Stage	Bolts	Tightening torque
1.	-1 ... 3-	Screw in by hand until contact is made
2.	-1 ... 3-	8 Nm



## 1.2.2 Exploded view - windscreen wiper system, rain and light sensor

1 - Silicone pad  
☐ Different versions ➤  
 Electronic parts cata-  
 logue  
☐ Renew after removing

### 2 - Retainer

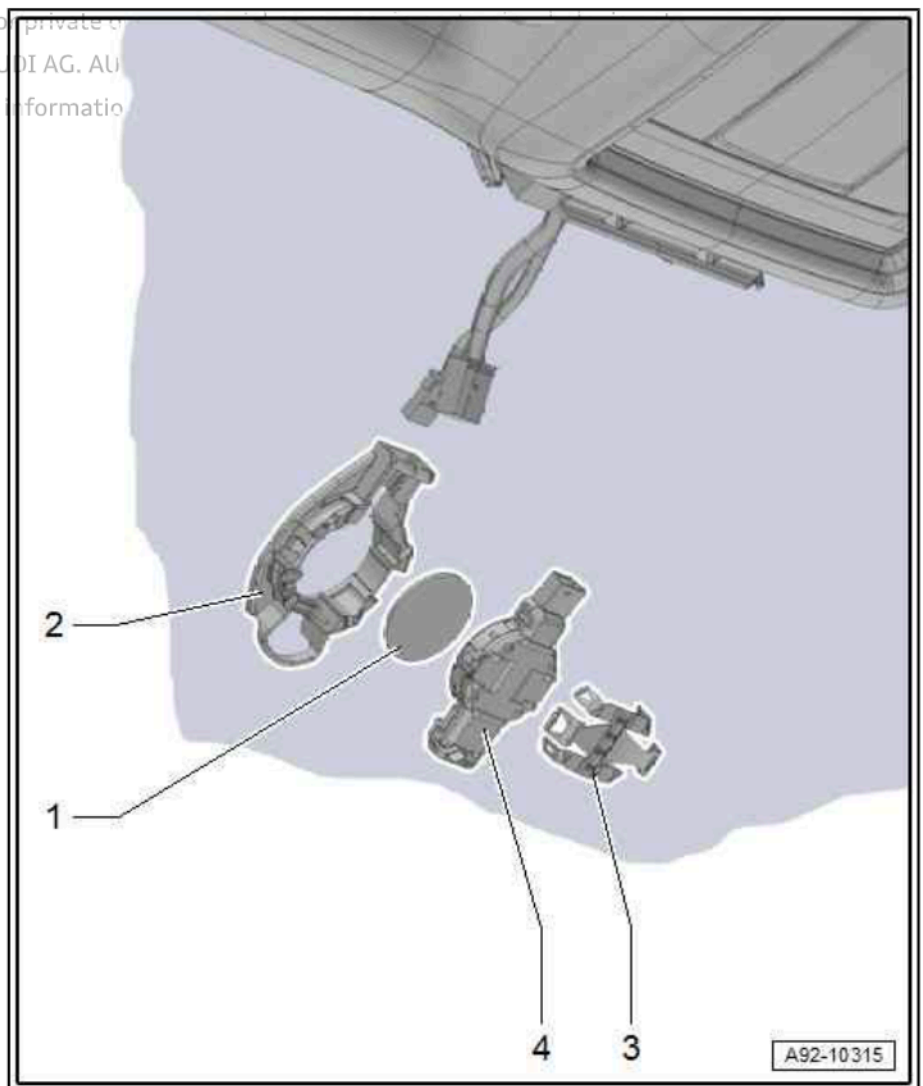
- ☐ For rain and light sensor - G397-
- ☐ Bonded to windscreen

### 3 - Clip

- ☐ Renew after removing

### 4 - Rain and light sensor - G397-

- ☐ Different versions ➤  
Electronic parts cata-  
logue
- ☐ Removing and installing  
➔ [page 105](#)
- ☐ Renewing ➔ [page 109](#)





## 1.3 Moving windscreen wipers to service position



### Note

*The bonnet must be completely closed if the wiper motor needs to be run during repair work (the voltage supply to the wiper motor is cut off when the bonnet is open).*

- At sub-zero temperatures, first check that the wiper blades are not frozen onto the glass.
- Switch on ignition.
- Activate menu option: Windscreen wipers "on" via multimedia system operating unit ⇒ Owner's Manual for the vehicle .
- The wipers will run to the "service position".
- Switch off ignition.



### Caution

*The bonnet can be damaged if the wipers are allowed to run back to the park position.*

- ◆ *Do not move the vehicle when the wiper arms are lifted up off the windscreen.*
- ◆ *The wipers automatically run back to the park position when the wiper switch is operated or when road speed exceeds 6 km/h.*

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## 1.4 Removing and installing wiper blade

### Removing

- Move windscreen wipers to service position ⇒ [page 98](#) .
- Lift wiper arm off windscreen.
- Press retaining clip -arrow A- and slide wiper blade -1- off wiper arm -2- -arrow B-.
- Detach wiper blade.

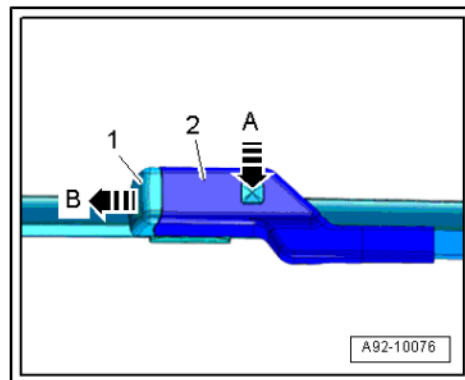
### Installing



### Caution

*Risk of damage to body.*

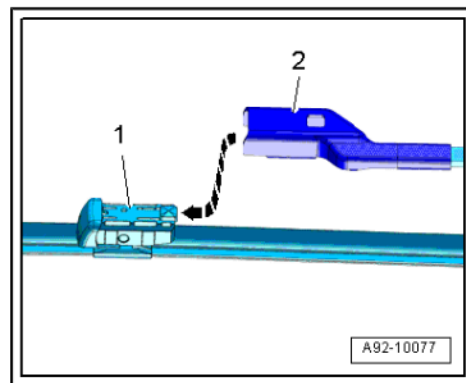
- ◆ *The wiper blades for driver's and front passenger's side have different lengths.*



Installation is carried out in reverse order; note the following:



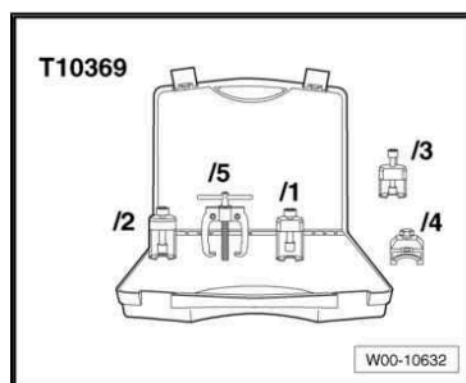
- Guide wiper blade -1- into wiper arm -2- in parallel position -arrow-. Make sure that retaining clip on wiper blade engages audibly in wiper arm when fitting wiper blade.
- The wipers will run back from the “service position” when the wiper switch is operated or when road speed exceeds 6 km/h.



## 1.5 Removing and installing wiper arms

Special tools and workshop equipment required

- ◆ Tool kit for wiper arms - T10369-



Removing



**Caution**

**Risk of damage to wiper shafts**

- ◆ *The wiper shafts can be damaged if you attempt to detach the wiper arms without using the puller - T10369/1- .*



**Note**

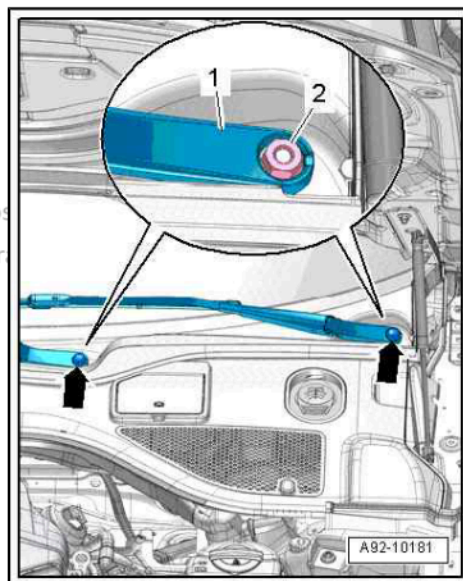
*The bonnet must be closed if the windscreen wiper motor has to be run during this procedure; otherwise there will be no power supply to the motor and it will not run.*

- Move windscreen wipers to service position ➔ [page 98](#) .



- Pry trim caps -arrows- off wiper arms -1- with a screwdriver.
- Slacken nuts -2- a few turns.

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- Apply puller - T10369/1- at wiper arm -1- as shown in illustration.
- Apply thrust piece -2- at wiper shaft.
- Turn bolt -3- clockwise until wiper arm is clear of wiper shaft.
- Remove nuts and detach wiper arms.

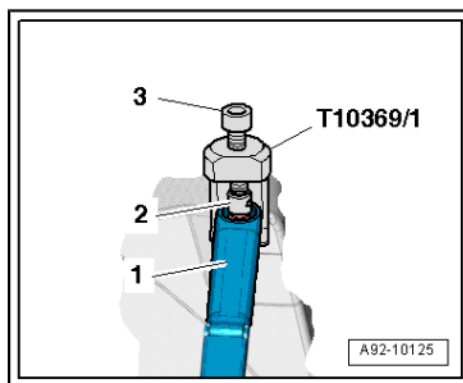
#### Installing



#### Caution

*Risk of damage to body.*

- ◆ *The wiper arms for driver's and front passenger's side have different lengths.*



Installation is carried out in reverse order; note the following:

- Adjust wiper arms ⇒ [page 100](#) .

## 1.6 Adjusting wiper arms

### Procedure



#### Note

*The bonnet must be closed if the windscreen wiper motor has to be run during this procedure; otherwise there will be no power supply to the motor and it will not run.*

- Remove wiper arms ⇒ [page 99](#) .
- Switch on ignition.
- Actuate "touch wipe" function and allow wiper motor to move to end position.

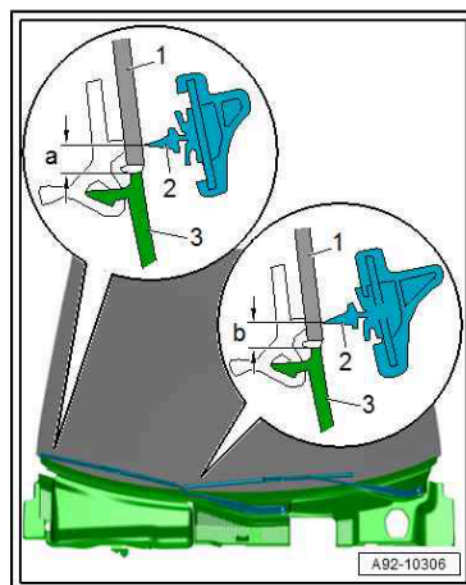




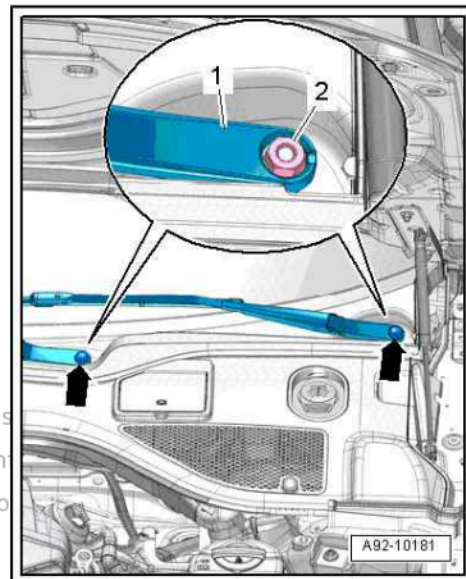
## Note

- ◆ *Every 2nd time the wiper motor is switched off, it moves the wiper arms slightly past the end position, which ensures that the lip of the wiper blade is tipped the other way.*
- ◆ *The wiper motor moves the wiper arms down beyond their end position and then back up slightly to do this. Do not adjust the wiper crank while the wiper arms are in this raised position.*
- ◆ *Instead, carry out adjustment or checks only after the wiper motor has moved the wiper arms directly to their normal park position (not raised); if necessary let wipers carry out another "touch wipe".*

- Switch off ignition.
- Fit wiper arm with wiper blade attached to wiper shaft.
- Align tips of wiper blades -2- with cowl panel trim -3- at bottom edge of windscreen -1-:
- Dimension -a- = 25 + 10 mm
- Dimension -b- = 15 + 10 mm



- Tighten nuts -2- for wiper arms -1-.
- Tightening torque ➔ [page 96](#)
- Switch on ignition.
- Actuate "touch wipe" function and allow wiper arms to move to end position.
- Switch off ignition.
- Check setting for wiper arms once more and correct if necessary.
- Press trim caps -arrows- onto wiper arms.



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## 1.7 Removing and installing wiper motor - V-

### Removing

- Remove wiper arms ➔ [page 99](#) .



- Remove plenum chamber cover and cowl panel trim ⇒ General body repairs, exterior; Rep. gr. 50 ; Bulkhead; Removing and installing plenum chamber cover .
- Remove filler neck for washer fluid reservoir ⇒ [page 112](#) .
- Release fastener -arrow-, detach engine control unit -1- and move to one side with wiring attached.



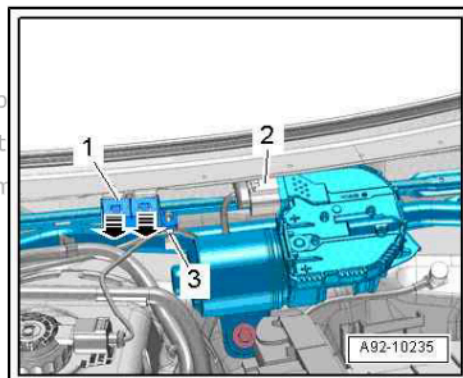
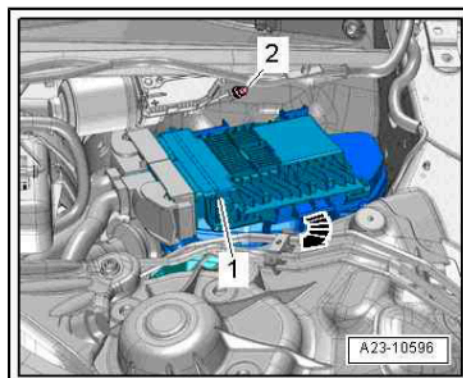
Note

Disregard -item 2-.

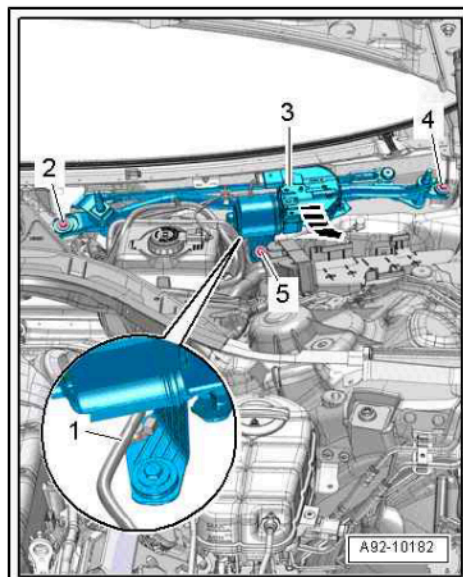


- Unplug electrical connector -2- and move wiring harness -3- clear.
- Release retaining tabs -arrows- and detach mounting -1- from below.

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- Remove bolts -2, 4, 5-.
- Swivel wiper frame -3- with linkage and wiper motor slightly forwards -arrow-.
- Move clear electrical wiring harness -1- at wiper frame.



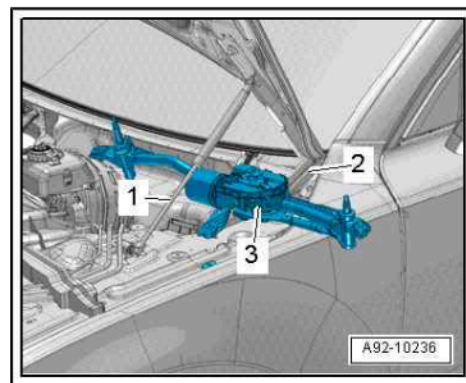


- Remove wiper frame -3- (together with linkage and wiper motor) from plenum chamber between gas strut -1- and bonnet hinge -2-.

#### Installing

Installation is carried out in reverse order; note the following:

- Fit wiper motor with wiper frame in vehicle.
- Tighten bolts ⇒ [page 97](#) .
- Press mounting for cowl panel trim onto body so that it engages audibly.
- Adjust wiper arms ⇒ [page 100](#) .



#### Tightening torques

- ◆ ⇒ [Fig. "Wiper motor - tightening torque and tightening sequence"](#) , [page 97](#)

## 1.8 Renewing windscreen wiper motor

### Procedure

- When renewing control unit select "Replacement" function for relevant control unit in "Guided Fault Finding" or "Guided Functions" ⇒ Vehicle diagnostic tester.

## 1.9 Removing and installing rain and light sensor

⇒ ["1.9.1 Removing and installing rain and light sensor G397 - vehicles without humidity sender G355"](#) , [page 103](#)

⇒ ["1.9.2 Removing and installing rain and light sensor G397 - vehicles with humidity sender G355"](#) , [page 105](#)

⇒ ["1.9.3 Renewing rain and light sensor G397 - vehicles without humidity sender G355"](#) , [page 108](#)

⇒ ["1.9.4 Renewing rain and light sensor G397 - vehicles with humidity sender G355"](#) , [page 109](#)

### 1.9.1 Removing and installing rain and light sensor - G397- - vehicles without humidity sender - G355-

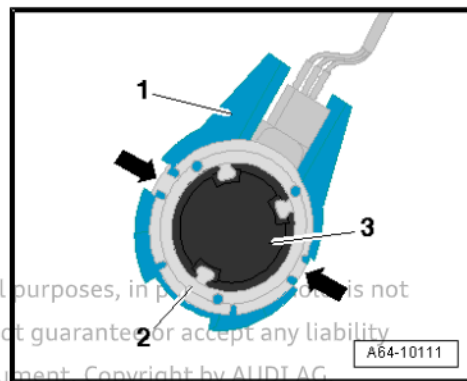
Special tools and workshop equipment required

- ◆ Cleaning solution - D 009 401 04-



## Removing

- Remove interior mirror ⇒ General body repairs, interior; Rep. gr. 68 ; Interior mirror; Removing and installing interior mirror .
- Unplug electrical connector.
- Release catches of retaining clip -arrows- using a small screw-driver.
- Detach retaining clip -2- from mounting -1-.
- Wait one minute to allow silicone pad to loosen enough so that it can be removed without leaving residue.
- Loosen rain and light sensor -G397- item 3- by turning it back and forth and take it out of mounting.
- Remove silicone pad from windscreen, ensuring that no residue remains.
- Clean bonding surface on windscreen with cleaning fluid - D 009 401 04- .
- Any silicone residue must be removed completely.



## Installing

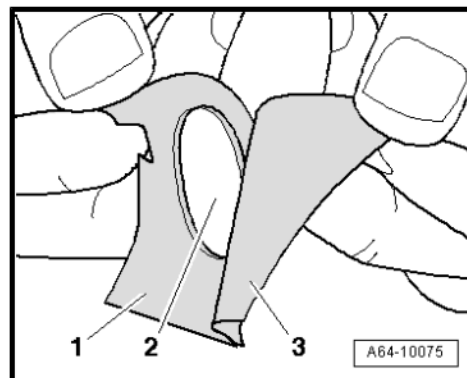
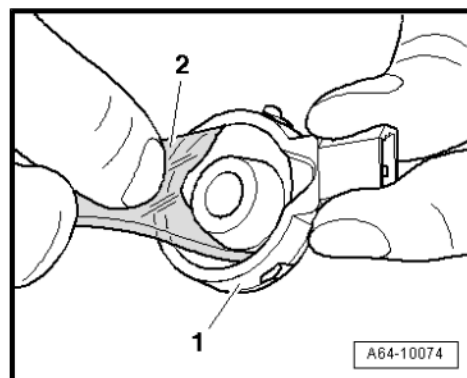
Installation is carried out in reverse order; note the following:



### Note

*Renew silicone pad.*

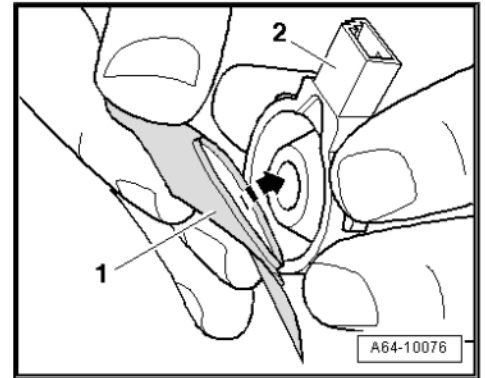
- Remove silicone pad -2- from sensor -1-, ensuring that no residue remains.
- Clean bonding surface on sensor with a lint-free cloth.
- Remove silicone paper -3- from silicone pad -2-.
- Transparent protective film -1- remains on silicone pad to assist with installation.



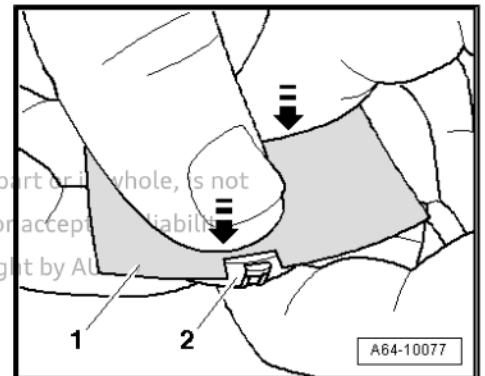




- Using transparent protective film -1- to help you, position silicone pad on sensor -2- so that it is centred.



- Press silicone pad onto sensor -2- through protective film -1-, ensuring that no air bubbles are present.



- Remove protective film -1- from silicone pad -2-.
- Apply a small amount of cleaning fluid - D 009 401 04- to silicone pad.



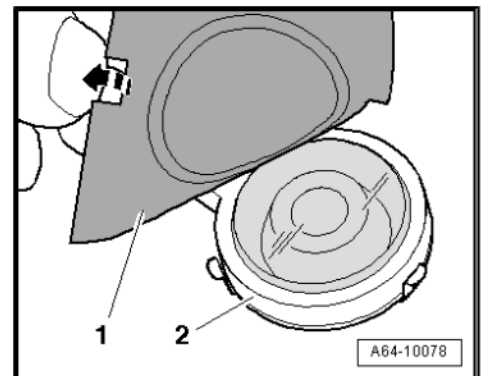
#### Note

*To prevent the silicone pad from becoming dirty, do not remove the protective film until just before fitting the pad.*



#### Caution

*In order to function correctly, rain and light sensor - G397- must be clear and there must be no air bubbles between it and the windscreen.*



- Press retaining clip onto mounting plate until it engages audibly.

### 1.9.2 Removing and installing rain and light sensor - G397- - vehicles with humidity sender - G355-

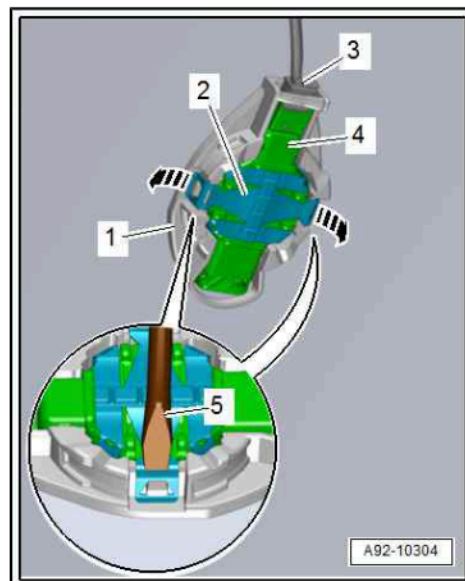
Special tools and workshop equipment required

- ◆ Cleaning solution - D 009 401 04-



## Removing

- Switch off ignition.
- Vehicles with ignition lock: Remove ignition key.
- Remove interior mirror ➔ General body repairs, interior; Rep. gr. 68 ; Interior mirror; Removing and installing interior mirror .
- Unplug electrical connector -3-.
- Insert a narrow screwdriver -5- into opening and release catches of retaining clip -2- -arrows-, as shown in illustration.
- Wait one minute to allow silicone pad to loosen enough so that it can be removed without leaving residue.
- Loosen rain and light sensor - G397- -item 4- by turning it back and forth and take it out of mounting -1-.

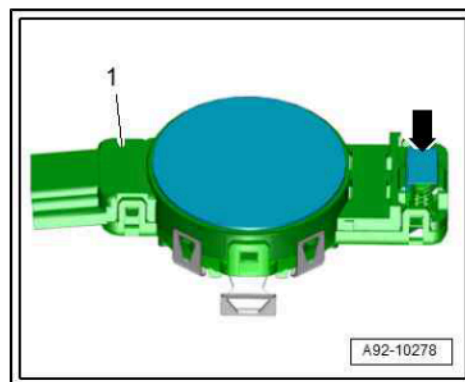


### Caution

*Risk of damage to humidity sender.*

- ◆ *The humidity sender -arrow- on the rain and light sensor -1- is very sensitive and must not be damaged.*

- Rain and light sensor -1- must be renewed if humidity sensor -arrow- is damaged.
- Clean bonding surface on windscreen with cleaning fluid - D 009 401 04- .
- Any silicone residue must be removed completely.



## Installing

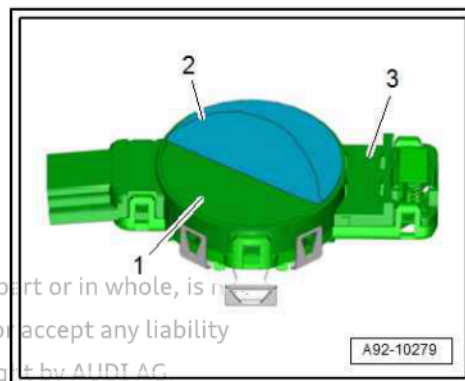
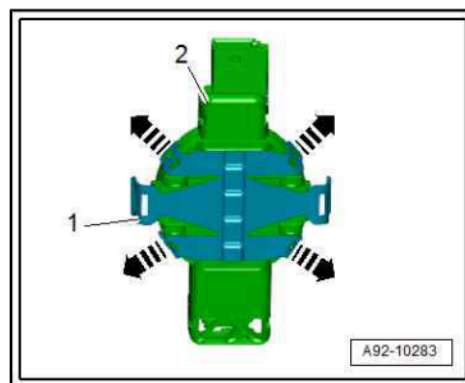
Installation is carried out in reverse order; note the following:



### Note

*Renew silicone pad and retaining clip.*

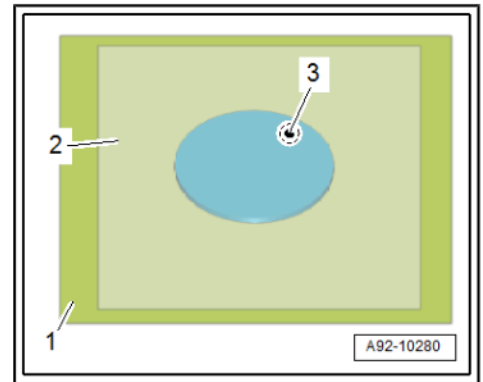
- Release catches on old retaining clip -1- -arrows- and detach it from sensor -2-.
- Press on new retaining clip until it engages audibly.
- Remove silicone pad -2- from sensor -3-, ensuring that no residue remains.
- Clean bonding surface -1- on sensor with a lint-free cloth.



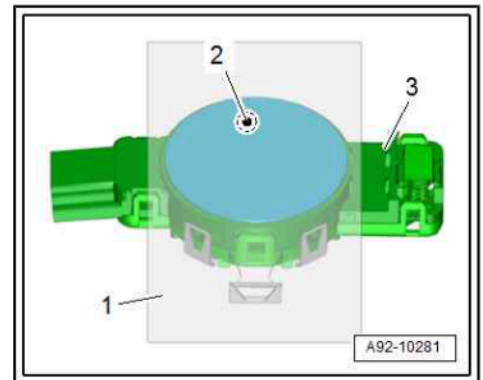
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- Remove silicone paper -1- from silicone pad -3-.
- Transparent protective film -2- remains on silicone pad to assist with installation.



- Using transparent protective film -1- to help you, position silicone pad -2- on sensor -3- so that it is centred.
- Press silicone pad onto sensor through protective film, ensuring that no air bubbles are present.



- Remove protective film -2- from silicone pad -1-.

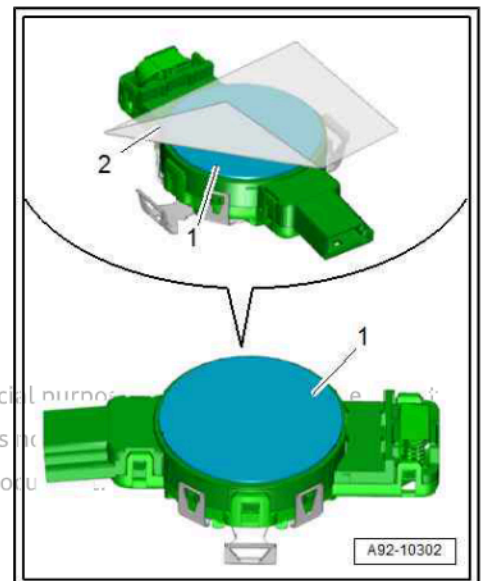


#### Note

*To prevent the silicone pad from becoming dirty, do not remove the protective film until just before fitting the pad.*

- Apply a small amount of cleaning fluid - D 009 401 04- to entire surface of silicone pad.

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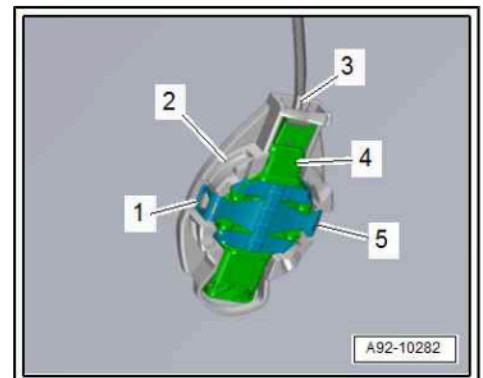
- Insert sensor -4- into mounting -2-.



#### Caution

*In order to function correctly, rain and light sensor - G397- must be clear and there must be no air bubbles between it and the windscreen.*

- Press on retaining clips -1, 5- until they engage audibly.
- Plug in electrical connector -3-.





### 1.9.3 Renewing rain and light sensor - G397- - vehicles without humidity sender - G355-

Special tools and workshop equipment required

- ◆ Cleaning solution - D 009 401 04-

Removing

- Remove interior mirror ➔ General body repairs, interior; Rep. gr. 68 ; Interior mirror; Removing and installing interior mirror .
- Unplug electrical connector.
- Release catches of retaining clip -arrows- using a small screw-driver.
- Detach retaining clip -2- from mounting -1-.
- Wait one minute to allow silicone pad to loosen enough so that it can be removed without leaving residue.
- Loosen rain and light sensor - G397- -item 3- by turning it back and forth and take it out of mounting.
- Remove silicone pad from windscreen, ensuring that no residue remains.
- Clean bonding surface on windscreen with cleaning fluid - D 009 401 04- .
- Any silicone residue must be removed completely.

Installing

Installation is carried out in reverse order; note the following:



Note

**Renew silicone pad.**

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- Press tabs -arrows- on protective cover -2- together gently and detach from sensor -1-.
- Apply a small amount of cleaning fluid - D 009 401 04- to silicone pad.



Note

*To prevent the silicone pad from becoming dirty, do not remove the protective cover until just before fitting the pad.*

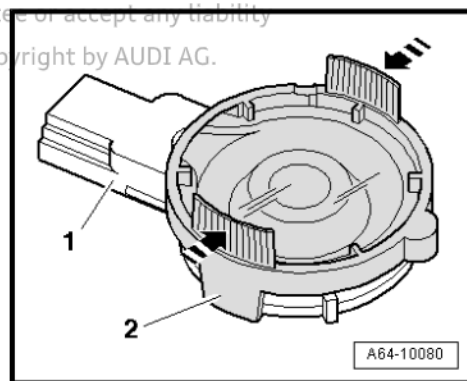
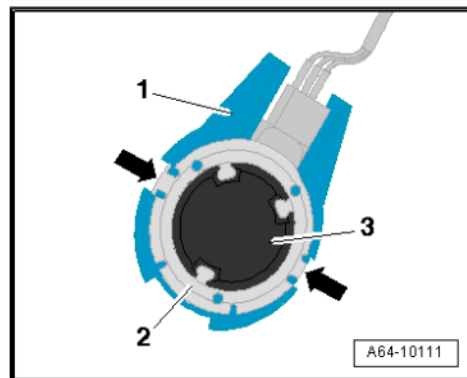
- Insert sensor into mounting.



Caution

*In order to function correctly, rain and light sensor - G397- must be clear and there must be no air bubbles between it and the windscreen.*

- Press retaining clip onto mounting plate until it engages audibly.







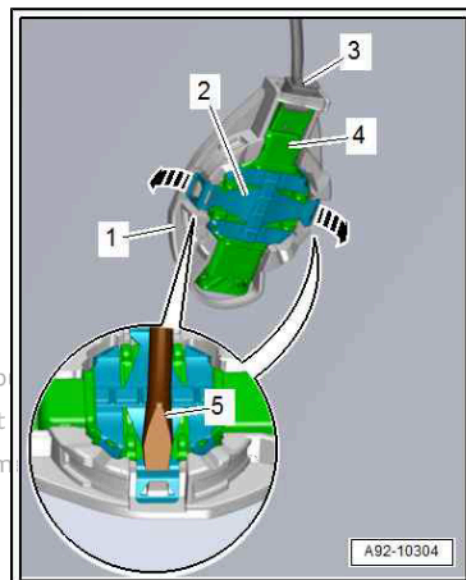
## 1.9.4 Renewing rain and light sensor - G397- - vehicles with humidity sender - G355-

Special tools and workshop equipment required

- ◆ Cleaning solution - D 009 401 04-

### Removing

- Switch off ignition.
- Vehicles with ignition lock: Remove ignition key.
- Remove interior mirror ➔ General body repairs, interior; Rep. gr. 68 ; Interior mirror; Removing and installing interior mirror .
- Unplug electrical connector -3-.
- Insert a narrow screwdriver -5- into opening and release catches of retaining clip -2- -arrows-, as shown in illustration.
- Wait one minute to allow silicone pad to loosen enough so that it can be removed without leaving residue.
- Loosen rain and light sensor - G397- item 4- by turning it back and forth and take it out of mounting -1-.
- Clean bonding surface on windscreen with cleaning fluid - D 009 401 04- .
- Any silicone residue must be removed completely.



### Installing

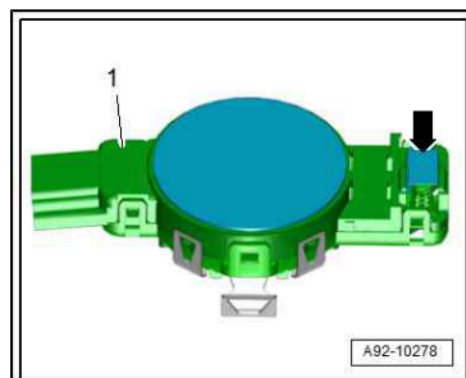
Installation is carried out in reverse order; note the following:



#### Caution

*Risk of damage to humidity sender.*

- ◆ *The humidity sender -arrow- on the rain and light sensor -1- is very sensitive and must not be damaged.*

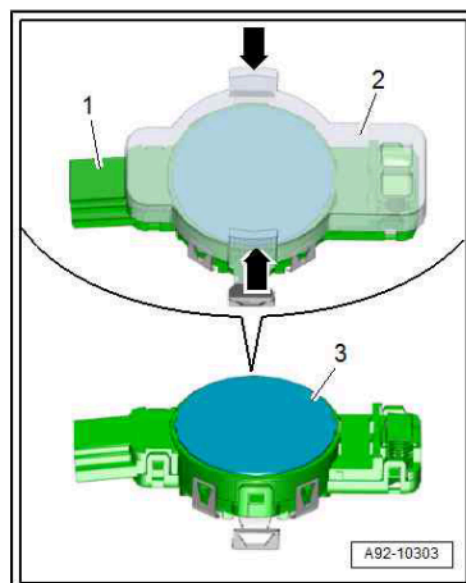


- Press tabs -arrows- on protective cover -2- together gently and detach from sensor -1-.



#### Note

*To prevent the silicone pad from becoming dirty, do not remove the protective cover until just before fitting the pad.*





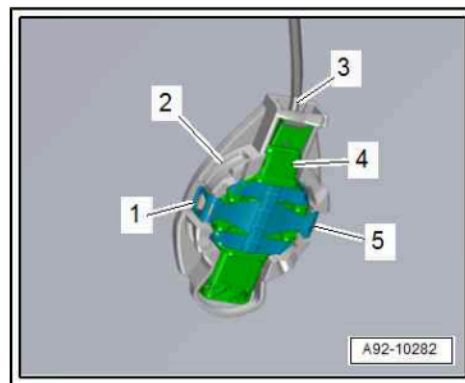
- Insert sensor -4- into mounting -2-.



**Caution**

*In order to function correctly, rain and light sensor - G397- must be clear and there must be no air bubbles between it and the windscreen.*

- Press on retaining clips -1, 5- until they engage audibly.
- Plug in electrical connector -3-.
- After it has been renewed, rain and light sensor must be re-encoded in “Guided Functions” mode of ⇒ Vehicle diagnostic tester.



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## 2 Windscreen washer system

⇒ "2.1 Exploded view - windscreen washer system", page 111

⇒ "2.2 Removing and installing washer fluid reservoir", page 112

⇒ "2.3 Removing and installing windscreen washer fluid level sender", page 114

⇒ "2.4 Removing and installing washer pump", page 115

⇒ "2.5 Removing and installing washer jets", page 115

⇒ "2.6 Adjusting washer jets", page 115

### 2.1 Exploded view - windscreen washer system

1 - Windscreen washer fluid level sender - G33-

- ☐ Removing and installing  
⇒ page 114

2 - Sealing grommet

- ☐ Renew if damaged

3 - Bolt

- ☐ Tightening sequence  
⇒ page 112

4 - Bolt

- ☐ Tightening sequence  
⇒ page 112

5 - Bolt

- ☐ 8 Nm

6 - Bolt

- ☐ 8 Nm

7 - Filler neck

- ☐ For washer fluid reservoir
- ☐ Removing and installing  
⇒ page 112

8 - Filler cap

- ☐ For filler neck

9 - Washer fluid hose

- ☐ For windscreen washer system

10 - Right washer jet

- ☐ Version with right washer jet heater element - Z21-

- ☐ Removing and installing ⇒ page 115

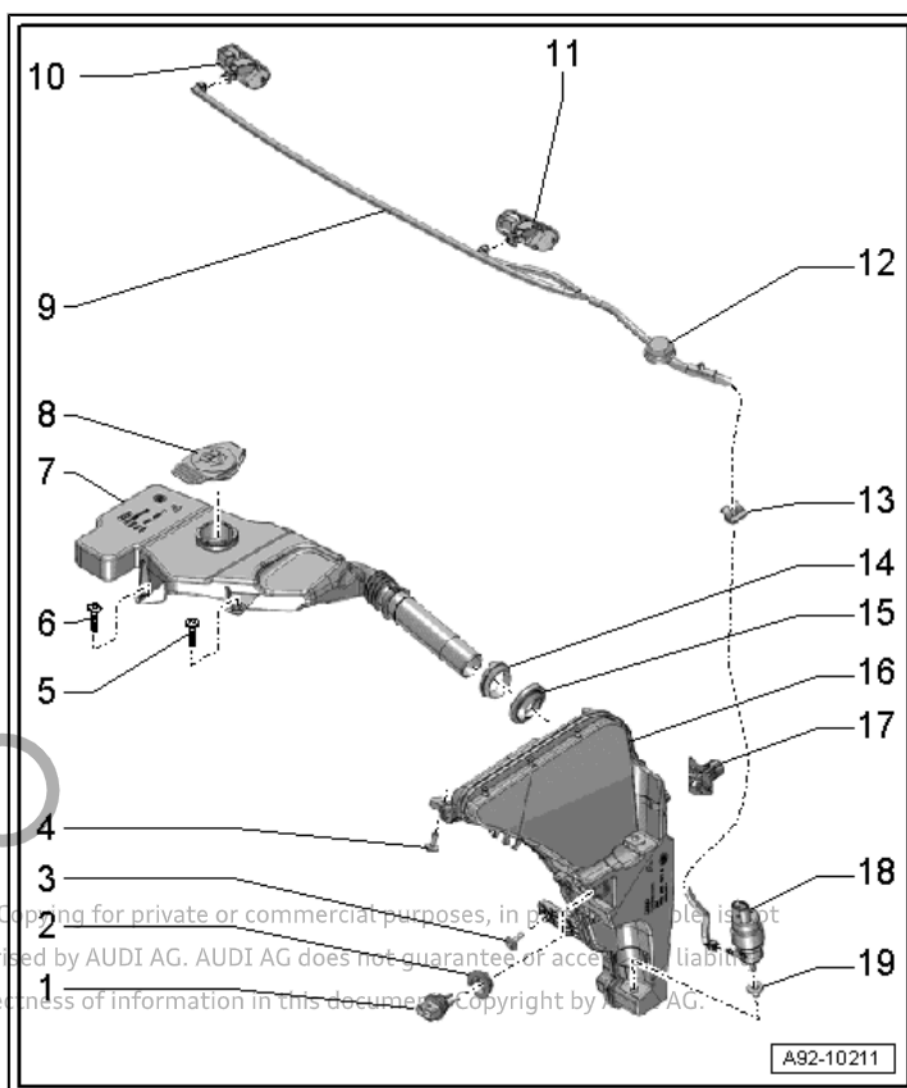
- ☐ Adjusting ⇒ page 115

11 - Left washer jet

- ☐ Version with left washer jet heater element - Z20-

- ☐ Removing and installing ⇒ page 115

- ☐ Adjusting ⇒ page 115





12 - Grommet

- ☐ For washer fluid hose in bonnet

13 - Grommet

- ☐ For washer fluid hose on wing panel

14 - Sealing grommet

- ☐ Renew if damaged

15 - O-ring

- ☐ Renew if damaged

16 - Washer fluid reservoir

- ☐ Removing and installing ⇒ [page 113](#)

17 - Locating element

- ☐ For mounting in wing panel end plate

18 - Washer pump - V5-

- ☐ Removing and installing ⇒ [page 115](#)

19 - Sealing grommet

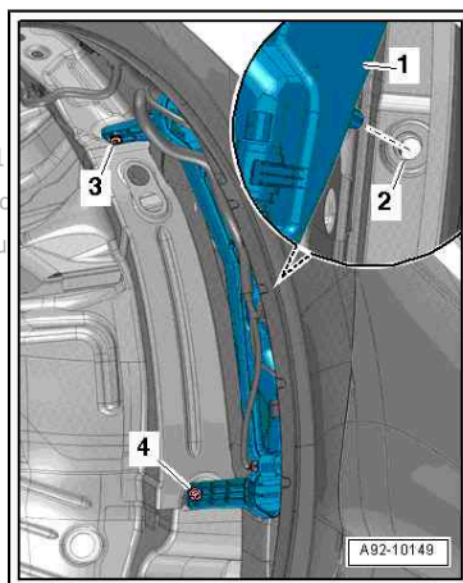
- ☐ Renew if damaged

Washer fluid reservoir - tightening torque and tightening sequence

- Tighten bolts for washer fluid reservoir in the sequence shown:

1. Tighten bolt -3- to 7 Nm.

2. Tighten bolt -4- to 7 Nm.



## 2.2 Removing and installing washer fluid reservoir

⇒ ["2.2.1 Removing and installing filler neck for washer fluid reservoir", page 112](#)

⇒ ["2.2.2 Removing and installing washer fluid reservoir", page 113](#)

### 2.2.1 Removing and installing filler neck for washer fluid reservoir

Special tools and workshop equipment required

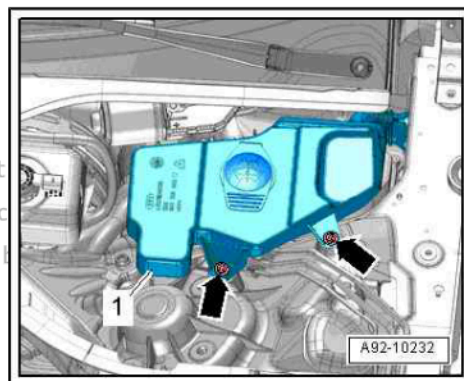
- ◆ Drip tray





## Removing

- Place drip tray under washer fluid reservoir.
- Remove plenum chamber cover ⇒ General body repairs, exterior; Rep. gr. 50 ; Bulkhead; Removing and installing plenum chamber cover
- Remove bolts -arrows- and detach filler neck -1- with filler pipe from washer fluid reservoir and remove through opening in body towards right side of vehicle.



## Installing

Installation is carried out in reverse order; note the following:

- Slide sealing grommet -2- onto filler pipe for filler neck -1- as far as stop.
- Lug -3- must make contact in recess -arrow- on filler pipe.
- Push filler neck into washer fluid reservoir.

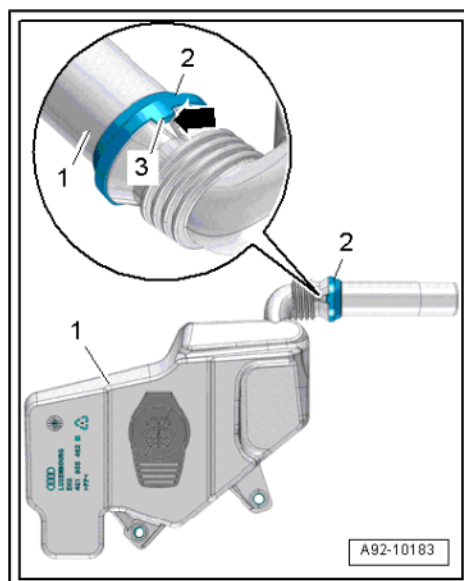


### Note

*Make sure that the O-ring in the washer fluid reservoir does not become pinched when inserting.*

## Tightening torques

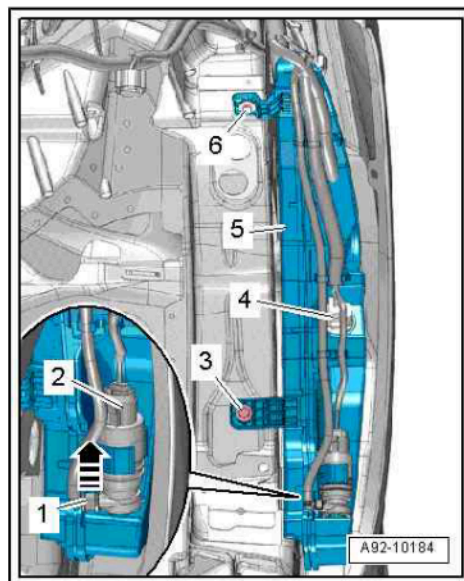
- ♦ ⇒ ["2.1 Exploded view - windscreen washer system", page 111](#)



## 2.2.2 Removing and installing washer fluid reservoir

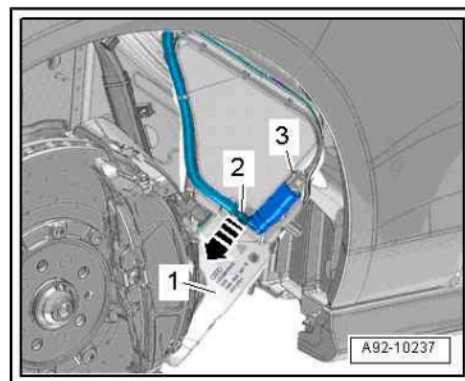
### Removing

- Remove filler neck for washer fluid reservoir ⇒ [page 112](#) .
- Remove front left wheel housing liner ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (front) .
- e-tron: Remove cover for wheel housing liner ⇒ General body repairs, exterior; Rep. gr. 66 ; Strips / trim panels / extensions; Removing and installing cover .
- Release retaining clip -arrow- and pull washer fluid hose -1- off washer pump.
- Unplug electrical connectors -2, 4-.
- Detach wiring harness and washer fluid hose from retainers on washer fluid reservoir -5-.
- Remove bolts -3, 6-.
- Swivel bottom of washer fluid reservoir slightly out towards front.





- Unplug electrical connector -3-.
- Release retaining clip -arrow- and disconnect washer fluid hose -2- for headlight washer system from hose connector.
- Detach washer fluid reservoir -1-.



#### Installing

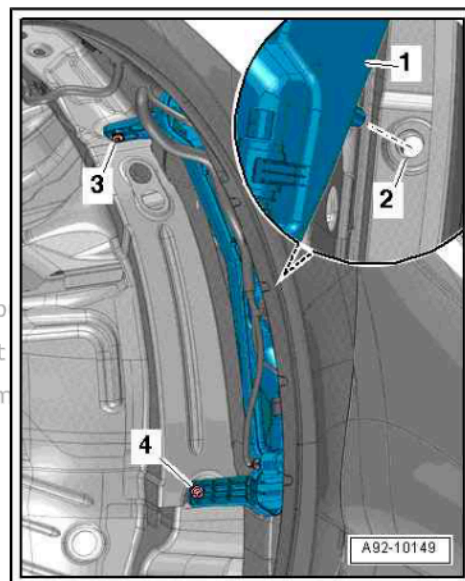
Installation is carried out in reverse order; note the following:

- When installing washer fluid reservoir -1-, make sure that locating element engages in mounting -2- on wing panel end plate.

#### Tightening torques

- ◆ ⇒ Fig. "Washer fluid reservoir - tightening torque and tightening sequence", page 112

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## 2.3 Removing and installing windscreen washer fluid level sender

#### Special tools and workshop equipment required

- ◆ Drip tray

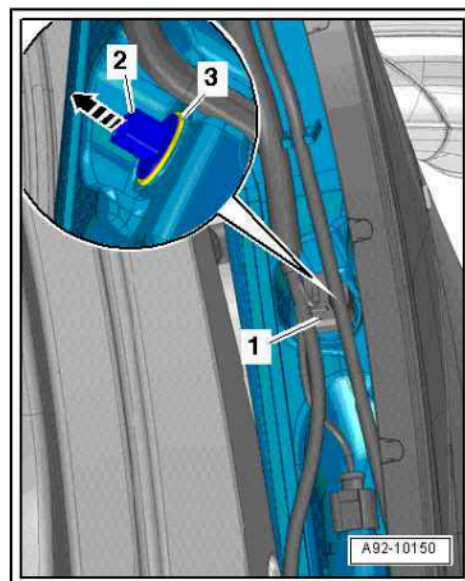
#### Removing

- Remove front left wheel housing liner ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (front) .
- Place drip tray under washer fluid reservoir.
- Unplug electrical connector -1-.
- Pull windscreen washer fluid level sender - G33- -item 2- out of washer fluid reservoir.

#### Installing

Installation is carried out in reverse order; note the following:

- Check sealing grommet -3- for damage.





## 2.4 Removing and installing washer pump

Special tools and workshop equipment required

### ◆ Drip tray

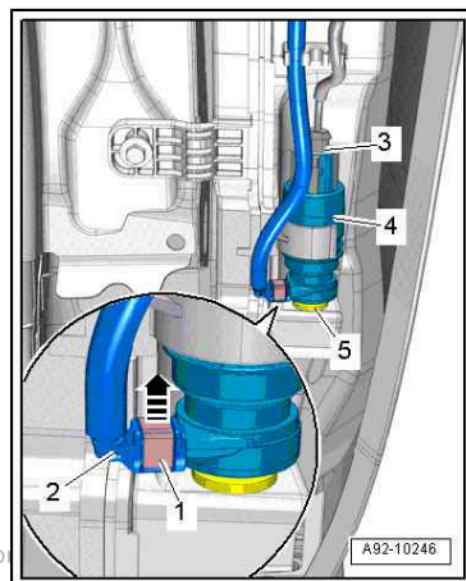
Removing

- Remove front left wheel housing liner ➔ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (front) .
- Unplug electrical connector -3-.
- Place drip tray under washer fluid reservoir.
- Release retaining clip -1- -arrow- and pull washer fluid hose -2- off washer pump.
- Lift washer pump - V5- -item 4- out of washer fluid reservoir.

Installing

Installation is carried out in reverse order; note the following:

- Check sealing grommet -5- for damage.

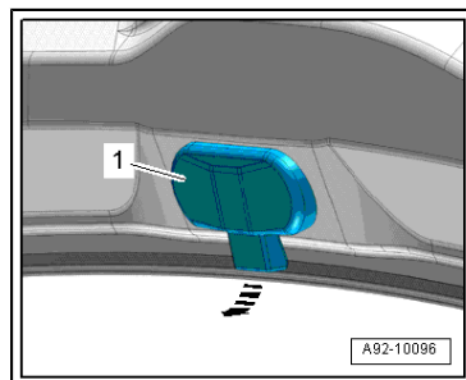


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## 2.5 Removing and installing washer jets

Removing

- Unclip windscreen washer jet -1- from bonnet in direction of -arrow-.

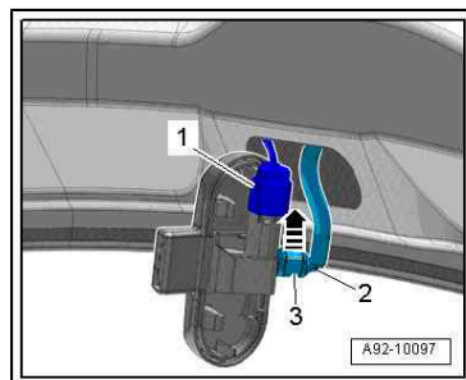


- Release retaining clip -3- in direction of -arrow- and pull washer fluid hose -2- off windscreen washer jet.
- If fitted, unplug electrical connector -1-.

Installing

Installation is carried out in reverse order; note the following:

- When fitting washer fluid hose, make sure that retaining clip engages audibly in connection on washer fluid hose.
- Insert windscreen washer jet in bonnet.



## 2.6 Adjusting washer jets

Adjust washer jets for windscreen washer system ➔ Maintenance ; Booklet 411 .

- If spray pattern does not match specifications, clean the contaminated washer jet.



Cleaning washer jet:



Caution

*Risk of damage.*

- ◆ *Do NOT use any tools or implements to clean the washer jets.*

- Remove washer jet ⇒ [page 115](#).
- Rinse washer jet with clean water in opposite direction to normal flow.
- To remove any remaining obstructions, blow out with compressed air only (in opposite direction to normal flow).
- If spray pattern still does not match specifications, renew washer jet.

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### 3 Rear window wiper system

⇒ ["3.1 Overview of fitting locations - rear window wiper system", page 117](#)

⇒ ["3.2 Exploded view - rear window wiper system", page 118](#)

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⇒ ["3.3 Removing and installing wiper blade", page 118](#)

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⇒ ["3.4 Removing and installing wiper arm", page 118](#)

⇒ ["3.5 Adjusting wiper arm", page 120](#)

⇒ ["3.6 Removing and installing rear window wiper motor V12 ", page 121](#)

#### 3.1 Overview of fitting locations - rear window wiper system

##### 1 - Washer fluid reservoir

- ☐ Exploded view  
⇒ [page 122](#)

##### 2 - Rear window wiper motor - V12-

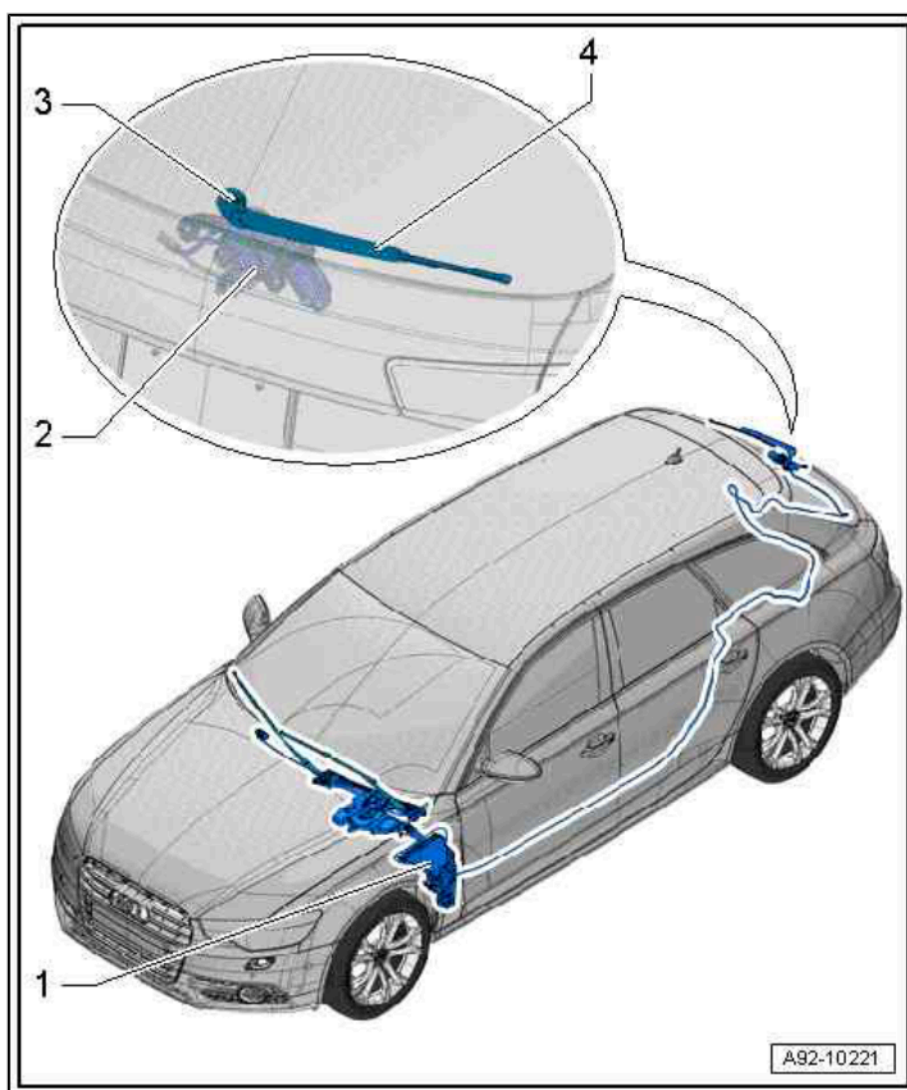
- ☐ Exploded view  
⇒ [page 118](#)

##### 3 - Washer jet

- ☐ Exploded view  
⇒ [page 122](#)

##### 4 - Wiper arm

- ☐ Exploded view  
⇒ [page 118](#)







## 3.2 Exploded view - rear window wiper system

### 1 - Washer fluid hose

- ☐ For rear window washer system

### 2 - Nut

- ☐ 8 Nm

### 3 - Rear window wiper motor - V12-

- ☐ Removing and installing  
⇒ [page 121](#)

### 4 - Rubber seal

- ☐ Renew if damaged
- ☐ Removing and installing  
⇒ [page 121](#)

### 5 - Wiper arm

- ☐ Removing and installing  
⇒ [page 118](#)

### 6 - Nut

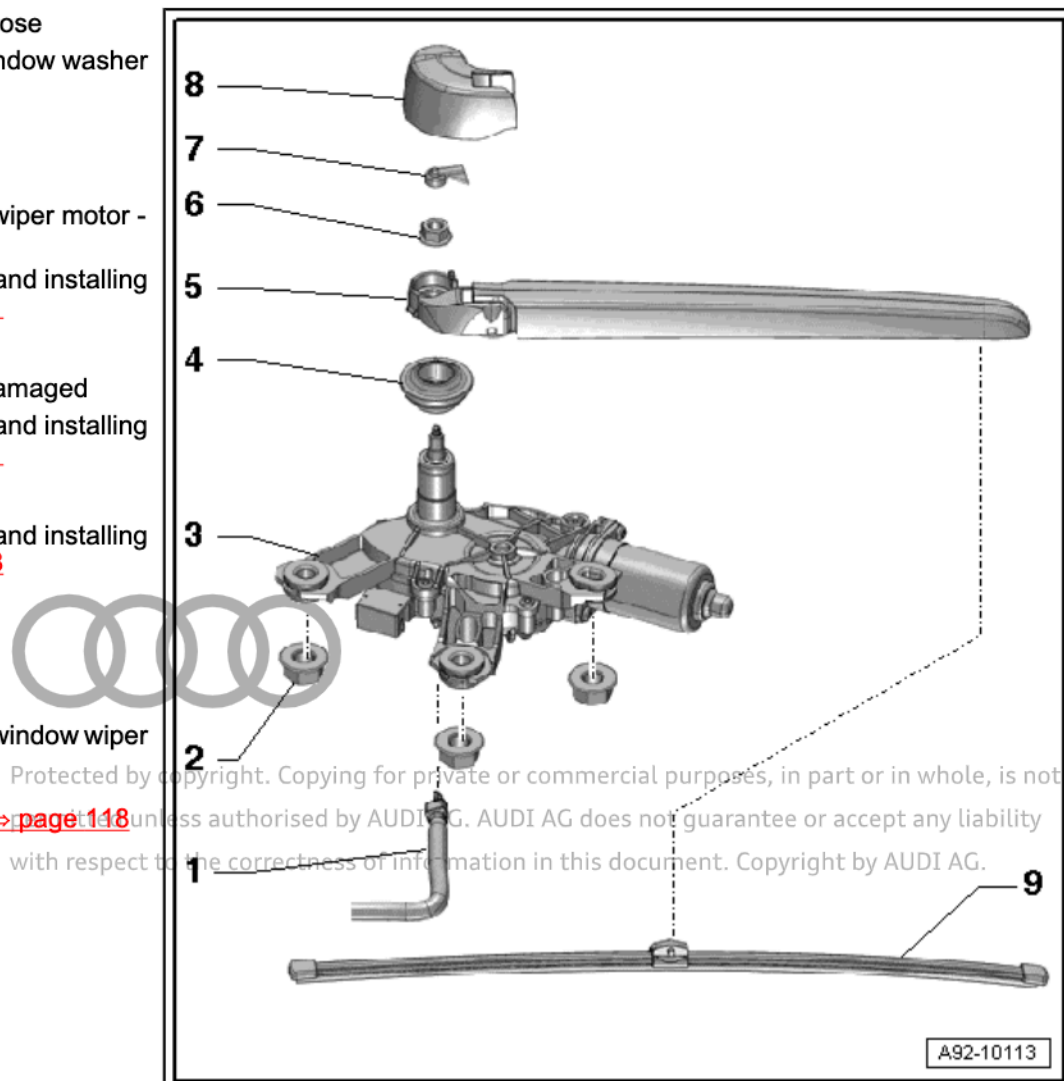
- ☐ 12 Nm

### 7 - Washer jet

### 8 - Cover for rear window wiper

### 9 - Wiper blade

- ☐ Renewing ⇒ [page 118](#)



## 3.3 Removing and installing wiper blade

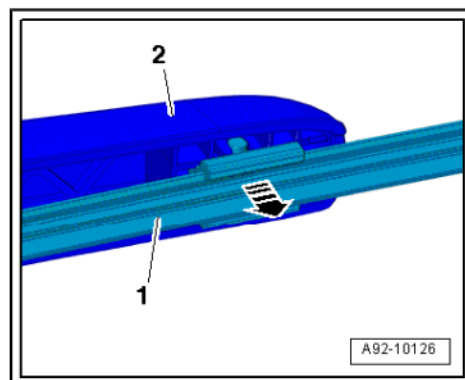
### Removing

- Lift wiper arm off rear window.
- Pull wiper blade -1- downwards off wiper arm -2- in direction of -arrow-.

### Installing

Installation is carried out in reverse order; note the following:

- The wiper blade must engage audibly in the wiper arm.

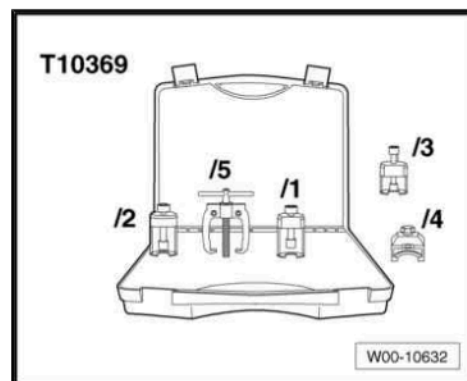


## 3.4 Removing and installing wiper arm

Special tools and workshop equipment required



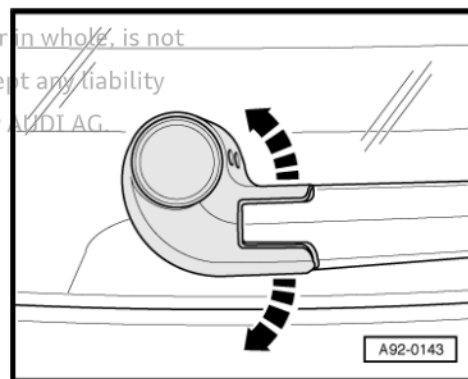
◆ Tool kit for wiper arms - T10369-



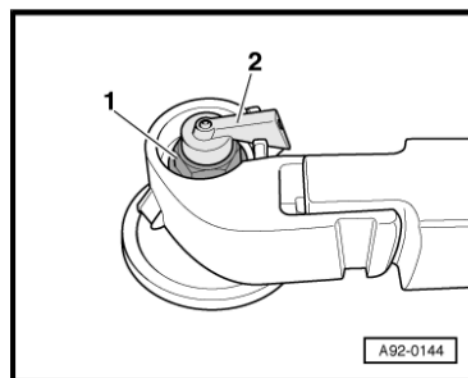
Removing

- Switch on ignition.
- Operate rear wiper and allow wiper arm to move to end position.
- Switch off ignition.
- Vehicles with ignition lock: Remove ignition key.
- Carefully pry cap apart slightly -arrows- and lift off.

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- Carefully pull off washer jet -2-.
- Slacken nut -1- one turn.

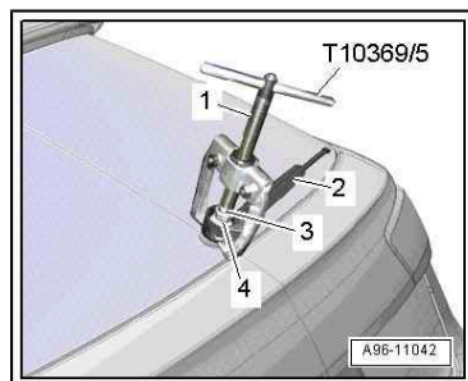


- Place an M6 nut -4- on top of nut.
- Apply puller - T10369/5- at wiper arm -2- as shown in illustration.
- Apply thrust piece -3- at wiper shaft.
- Turn bolt -1- clockwise until wiper arm is clear of wiper shaft.
- Remove nut and detach wiper arm.

Installing

Installation is carried out in reverse order; note the following:

- Adjust wiper arm ➔ [page 120](#) .

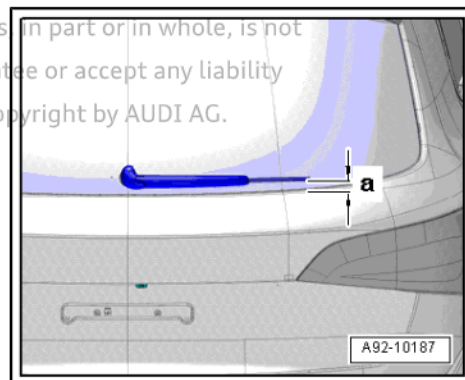




### 3.5 Adjusting wiper arm

#### Procedure

- Remove wiper arm. ➔ [page 118](#)
- Switch on ignition.
- Operate rear wiper and allow wiper arm to move to end position.
- Switch off ignition.
- Apply wiper arm with wiper blade fitted at wiper shaft and align wiper blade on rear window as follows.
- Dimension -a- = 19 + 5 mm



#### Note

*This figure specifies the distance between the tip of the wiper blade and the bottom edge of the rear window.*

- Tighten nut for wiper arm.
- Switch on ignition.
- Operate rear wiper and allow wiper arm to move to end position.
- Check setting for wiper arm again and correct if necessary.

#### Tightening torques

- ♦ ➔ [“3.2 Exploded view - rear window wiper system”, page 118](#)



### 3.6 Removing and installing rear window wiper motor - V12-

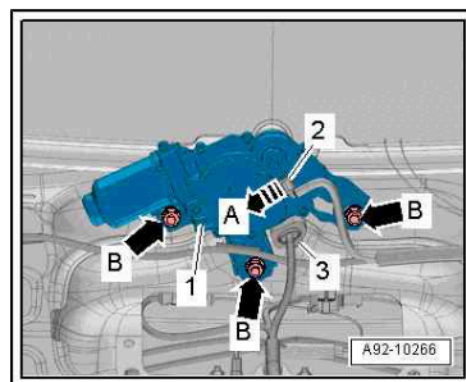
⇒ ["3.6.1 Removing and installing rear window wiper motor V12"](#), page 121

⇒ ["3.6.2 Removing and installing grommet"](#), page 121

#### 3.6.1 Removing and installing rear window wiper motor - V12-

##### Removing

- Remove wiper arm ⇒ [page 118](#) .
- Remove rear lid trim (bottom) ⇒ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim panels; Removing and installing rear lid trim (bottom) .
- Unplug electrical connector -3-.
- Pull retaining clip -arrow A- and disconnect washer fluid hose -2- from connecting pipe for washer jet.
- Unscrew nuts -arrows B- and detach rear window wiper motor - V12- -item 1-.



##### Installing

Installation is carried out in reverse order; note the following:

- Fluid hose must audibly engage in washer jet connection.
- Adjust wiper arm ⇒ [page 120](#) .

##### Tightening torques

- ◆ ⇒ ["3.2 Exploded view - rear window wiper system"](#), page 118

#### 3.6.2 Removing and installing grommet

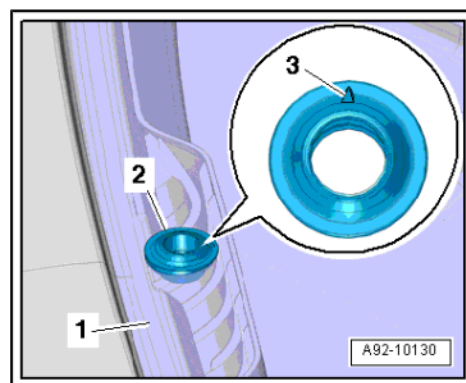
##### Removing

- Remove rear window wiper motor ⇒ [page 121](#) .
- Carefully pry grommet out of rear window.

##### Installing

Installation is carried out in reverse order; note the following:

- Insert grommet -2- into rear window -1-.
- Marking -3- should point upwards.







## 4 Rear window washer system

⇒ "4.1 Exploded view - rear window washer system", page 122

⇒ "4.2 Removing and installing washer fluid reservoir",  
page 123

⇒ "4.3 Removing and installing rear window washer pump", page  
123

⇒ "4.4 Removing and installing washer jet", page 123

⇒ "4.5 Adjusting washer jet", page 123

### 4.1 Exploded view - rear window washer system

#### 1 - Washer fluid reservoir

- ❑ Removing and installing  
⇒ page 113

#### 2 - Rear window wiper motor - V12-

#### 3 - Wiper arm

#### 4 - Washer jet

- ❑ Removing and installing  
⇒ page 123
- ❑ Adjusting ⇒ page 123

#### 5 - Washer fluid hose

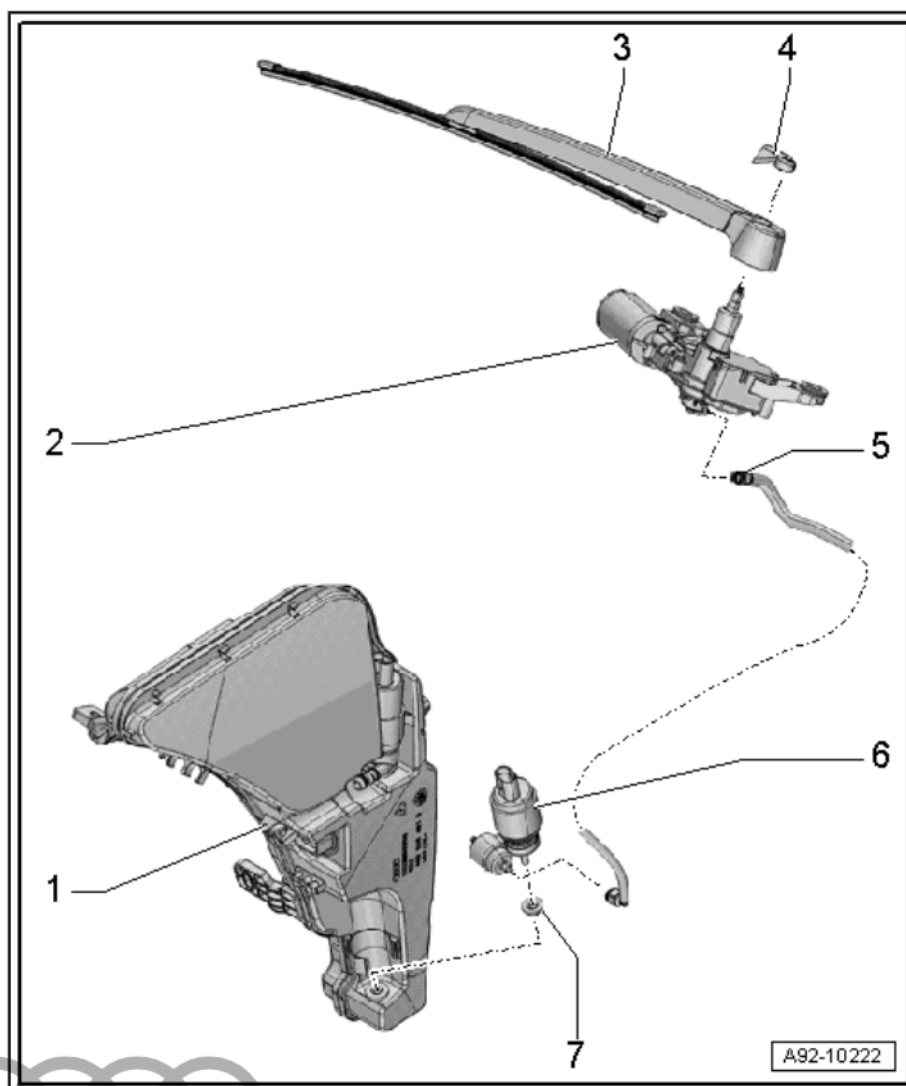
- ❑ For rear window washer  
system

#### 6 - Washer pump - V5-

- ❑ Removing and installing  
⇒ page 115

#### 7 - Sealing grommet

- ❑ Renew if damaged



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## 4.2 Removing and installing washer fluid reservoir



Note

*The washer fluid reservoir supplies both the windscreen and the rear window washer systems; it is located in the front left wheel housing.*

- Removing and installing washer fluid reservoir ⇒ [page 112](#) .

## 4.3 Removing and installing rear window washer pump



Note

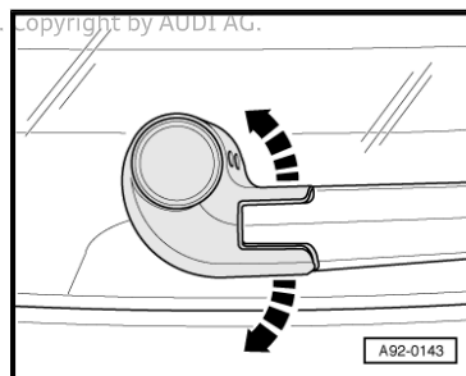
*The washer pump supplies both the windscreen and the rear window washer systems; it is located in the washer fluid reservoir in the front left wheel housing.*

- Removing and installing rear window washer pump  
⇒ [page 115](#) .

## 4.4 Removing and installing washer jet

Removing

- Carefully pry cap apart slightly -arrows- and lift off.

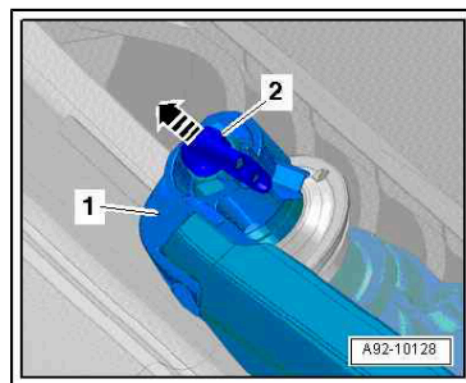


- Carefully pull washer jet -2- off connecting pipe in direction of -arrow-.

Installing

Installation is carried out in reverse order; note the following:

- Insert washer jet with spray opening pointing into recess on wiper arm -1-.




## 4.5 Adjusting washer jet

- Adjust washer jets for rear window washer system ⇒ Maintenance ; Booklet 411 .
- If spray pattern does not match specifications, clean the contaminated washer jet.




#### Cleaning washer jet:



Caution

*Risk of damage.*

◆ *Do NOT use any tools or implements to clean the washer jets.*



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- Remove washer jet [⇒ page 123](#)
- Rinse washer jet with clean water in opposite direction to normal flow.
- To remove any remaining obstructions, blow out with compressed air only (in opposite direction to normal flow).
- If spray pattern still does not match specifications, renew washer jet.



## 5 Headlight washer system

⇒ "5.1 Exploded view - headlight washer system", page 125

⇒ "5.2 Removing and installing washer fluid reservoir",  
page 126

⇒ "5.3 Removing and installing headlight washer system pump  
V11", page 126

⇒ "5.4 Removing and installing washer jets", page 126

⇒ "5.5 Adjusting washer jets", page 127

### 5.1 Exploded view - headlight washer system

1 - Washer jet for camera for  
night vision system - R212-

- ☐ Removing and installing  
⇒ page 127

2 - Bolt

- ☐ 2x
- ☐ 2.5 Nm

3 - Mounting

- ☐ For camera for night vi-  
sion system - R212-

4 - Fluid hose

- ☐ To washer jets

5 - Headlight washer system  
pump - V11-

- ☐ Removing and installing  
⇒ page 126

6 - Sealing grommet

- ☐ For headlight washer  
system pump - V11-

7 - Washer fluid reservoir

8 - Bolt

- ☐ 2x
- ☐ 2.5 Nm

9 - Mounting

- ☐ For washer jet
- ☐ Removing and installing  
⇒ page 127

10 - Fluid hose

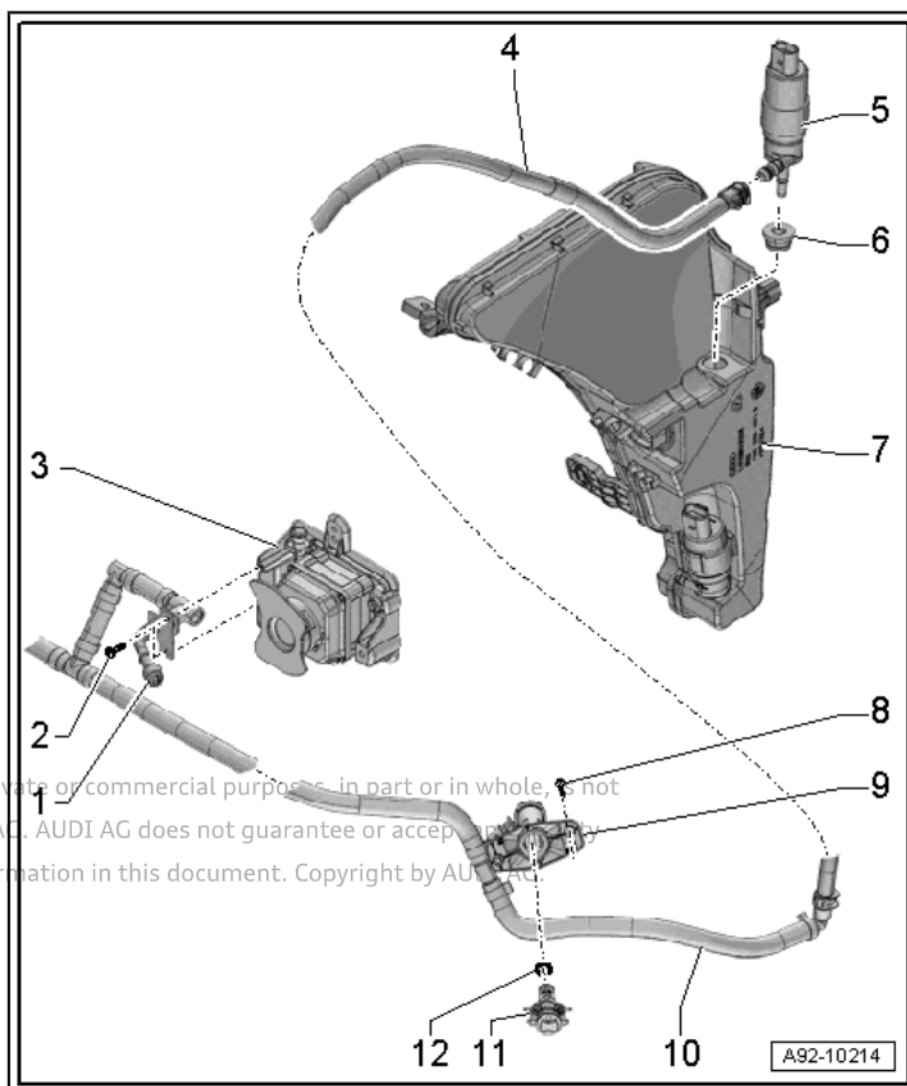
- ☐ For washer jet and night  
vision unit

11 - Washer jet

- ☐ Removing and installing ⇒ page 126

12 - O-ring

- ☐ Renew





## 5.2 Removing and installing washer fluid reservoir



### Note

*The washer fluid reservoir supplies the windscreen, rear window and headlight washer systems and is located in the front left wheel housing.*

- Removing and installing washer fluid reservoir ⇒ [page 113](#) .

## 5.3 Removing and installing headlight washer system pump - V11-

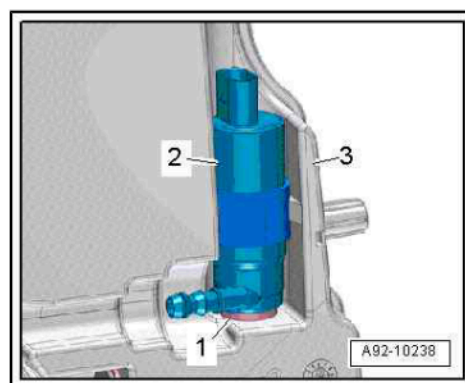
### Removing

- Remove washer fluid reservoir ⇒ [page 113](#) .
- Lift headlight washer system pump - V11- -item 2- out of washer fluid reservoir -3-.

### Installing

Installation is carried out in reverse order; note the following:

- Check sealing grommet -1- for damage.



## 5.4 Removing and installing washer jets

⇒ ["5.4.1 Removing and installing headlight washer jets"](#), [page 126](#)

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⇒ ["5.4.2 Removing and installing mounting for headlight washer jets"](#), [page 127](#)

⇒ ["5.4.3 Removing and installing washer jet for camera for night vision system R212"](#), [page 127](#)

### 5.4.1 Removing and installing headlight washer jets

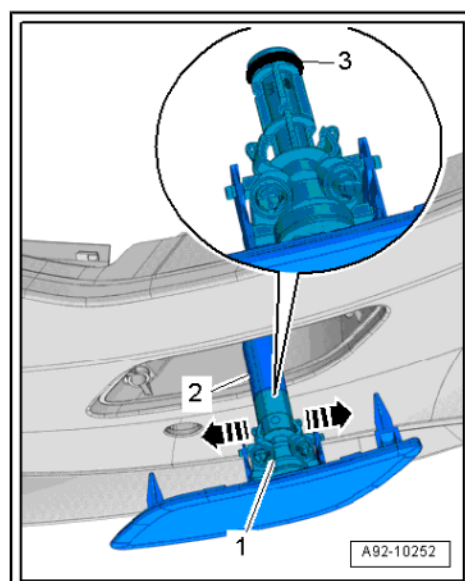
#### Removing

- Pull telescope section -2- of washer jet out of bumper cover as far as stop.
- Hold telescope section of washer jet in this position.
- Carefully pry side sections -arrows- apart slightly and pull washer jet -1- off telescope.
- Allow telescope to slowly slide back into mounting.
- If renewing washer jet, remove cover for washer jet ⇒ General body repairs, exterior; Rep. gr. 63 ; Bumper (front); Removing and installing attachments .

#### Installing

Installation is carried out in reverse order; note the following:

- If the same washer jet is re-installed, renew O-ring -3-.







## 5.4.2 Removing and installing mounting for headlight washer jets

### Removing

- Remove headlight washer jet ➔ [page 126](#) .
- Remove bumper cover (front) ➔ General body repairs, exterior; Rep. gr. 63 ; Bumper (front); Removing and installing bumper cover .
- Release retaining clip -arrow- and pull washer fluid hose -3- off mounting.



### Note

*Depending on the version, release tabs may be fitted on the connection piece of the water pipe.*

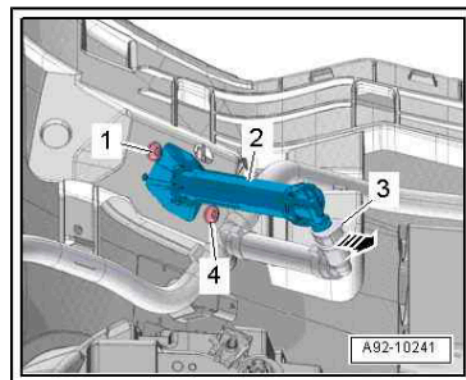
- Unscrew bolts -1, 4- and detach mounting -2-.

### Installing

Installation is carried out in reverse sequence.

### Tightening torques

- ◆ ➔ ["5.1 Exploded view - headlight washer system", page 125](#)



## 5.4.3 Removing and installing washer jet for camera for night vision system - R212-

### Removing

- Remove mounting for camera for night vision system - R212- ➔ General body repairs, exterior; Rep. gr. 63 ; Bumper (front); Removing and installing attachments .
- Remove bolts -arrows-.
- Detach washer jet -1- from mounting -2-.

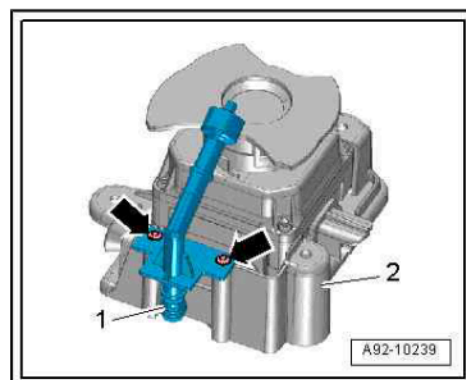
### Installing

Installation is carried out in reverse order; note the following:

- If the mounting has been removed, the camera for night vision system - R212- must be recalibrated ➔ Running gear, axles, steering; Rep. gr. 44 ; Night vision system; Calibrating night vision system .

### Tightening torques

- ◆ ➔ ["5.1 Exploded view - headlight washer system", page 125](#)



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## 5.5 Adjusting washer jets



### Note

*The washer jets are pre-set at the factory and do not have to be adjusted following installation.*



## 6 Washer fluid hoses

⇒ Electrical system; General information; Rep. gr. 92 ; Washer fluid hoses



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## 94 – Lights, bulbs, switches - exterior



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## 1 Headlights

- ⇒ ["1.1 Exploded view - headlights", page 130](#)
- ⇒ ["1.2 Removing and installing headlights", page 142](#)
- ⇒ ["1.3 Adjusting headlights", page 148](#)
- ⇒ ["1.4 Calibrating headlights", page 173](#)
- ⇒ ["1.5 Removing and installing front turn signal bulb M5 / M7 ", page 182](#)
- ⇒ ["1.6 Removing and installing side light bulb M1 / M3 ", page 184](#)
- ⇒ ["1.7 Removing and installing headlight dipped beam bulb", page 185](#)
- ⇒ ["1.8 Removing and installing daytime running light bulb L174 / L175 , headlight main beam bulb M30 / M32 - halogen headlights", page 186](#)
- ⇒ ["1.9 Removing and installing gas discharge bulb L13 / L14 ", page 187](#)
- ⇒ ["1.10 Removing and installing LED module for daytime running light and side light L176 / L177 ", page 188](#)
- ⇒ ["1.11 Removing and installing cornering light bulb", page 189](#)
- ⇒ ["1.12 Removing and installing dip beam screen motor V294 / V295 ", page 191](#)
- ⇒ ["1.13 Removing and installing dynamic cornering light control motor V318 / V319 ", page 191](#)
- ⇒ ["1.14 Removing and installing gas discharge bulb control unit J343 / J344 ", page 191](#)
- ⇒ ["1.15 Removing and installing control unit for daytime running light and side light J860 / J861 ", page 195](#)
- ⇒ ["1.16 Removing and installing output module for headlight J667 / J668 ", page 197](#)
- ⇒ ["1.17 Removing and installing output module for headlight", page 199](#)
- ⇒ ["1.18 Removing and installing headlight range control motor V48 / V49 ", page 205](#)
- ⇒ ["1.19 Removing and installing headlight fan", page 213](#)
- ⇒ ["1.20 Installing repair kit for headlight housing", page 216](#)
- ⇒ ["1.21 Adapting headlights for driving on the left side of the road", page 218](#)
- ⇒ ["1.22 Adapting headlights for driving on the right side of the road", page 218](#)

### 1.1 Exploded view - headlights

- ⇒ ["1.1.1 Exploded view - headlights, halogen headlight", page 131](#)
- ⇒ ["1.1.2 Exploded view - headlights, repair kit for headlight range control motor \(halogen headlights\)", page 132](#)
- ⇒ ["1.1.3 Exploded view - headlights, gas discharge headlight up to model year 2014", page 133](#)
- ⇒ ["1.1.4 Exploded view - headlights, gas discharge headlight from model year 2015 onwards", page 135](#)



⇒ ["1.1.5 Exploded view - headlights, gas discharge headlight repair kit from model year 2015 onwards", page 136](#)

⇒ ["1.1.6 Exploded view - headlights, LED headlight up to model year 2014", page 137](#)

⇒ ["1.1.7 Exploded view - headlights, LED headlight from model year 2015 onwards", page 139](#)

⇒ ["1.1.8 Exploded view - headlights, LED headlight repair kit from model year 2015 onwards", page 141](#)

## 1.1.1 Exploded view - headlights, halogen headlight

### 1 - Headlight housing

- ☐ USA vehicles: The front side marker light bulb (LED) is integrated in the headlight housing. The LED light cannot be renewed separately; the headlight must be renewed as a complete unit
- ☐ Removing and installing  
⇒ [page 142](#)

### 2 - Filter membrane

- ☐ Removing and installing  
⇒ [page 147](#)

### 3 - Breather

- ☐ For headlight housing

### 4 - Front turn signal bulb

- ☐ Front left turn signal bulb - M5-, front right turn signal bulb - M7-
- ☐ 12 V, 21 W (WY21W)
- ☐ Renewing bulbs  
⇒ [page 182](#)

### 5 - Bulb holder

- ☐ For front turn signal bulb

### 6 - Side light bulb

- ☐ Left side light bulb - M1-, right side light bulb - M3-
- ☐ 12 V, 5 W (W5W)
- ☐ Renewing bulbs  
⇒ [page 184](#)

### 7 - Bulb for daytime running light/headlight main beam

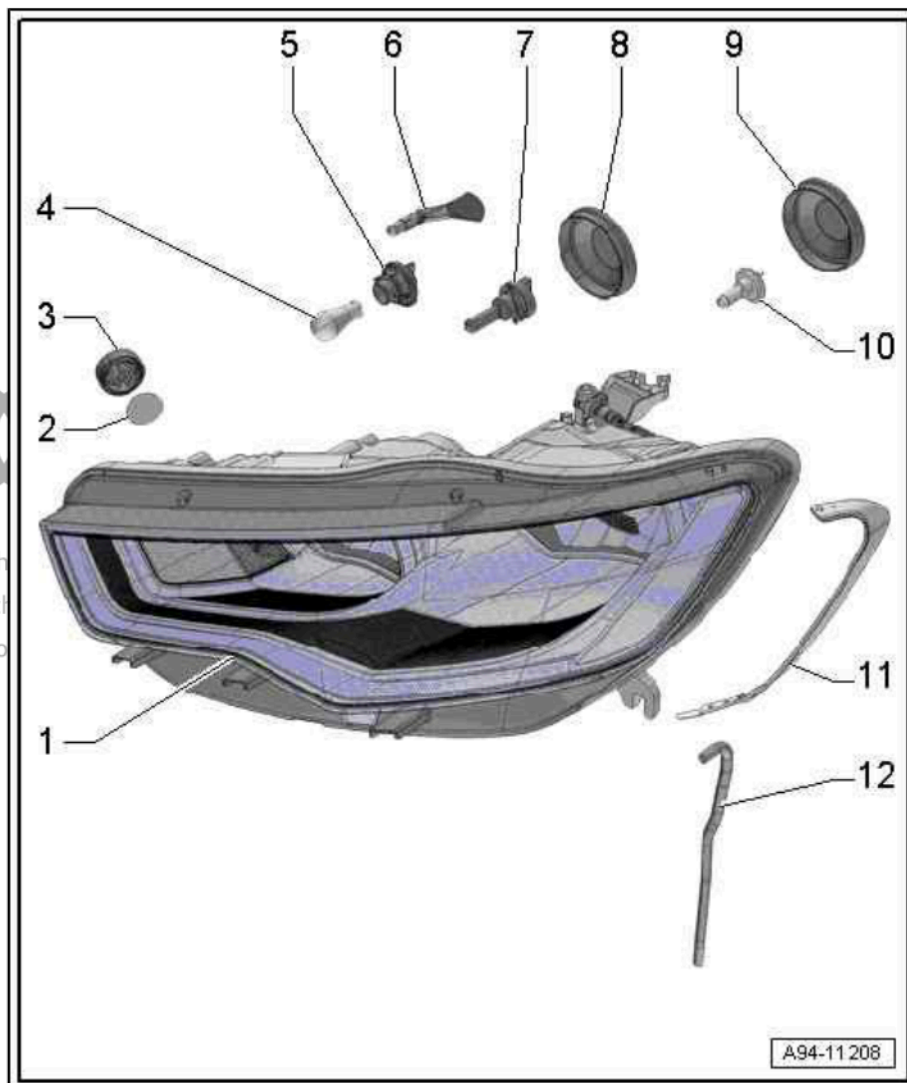
- ☐ Left daytime running light bulb - L174-, right daytime running light bulb - L175-
- ☐ Left headlight main beam bulb - M30-, right headlight main beam bulb - M32-
- ☐ 12 V, 15/55 W (H15)
- ☐ Renewing bulbs ⇒ [page 186](#)

### 8 - Housing cover

### 9 - Housing cover

### 10 - Headlight dipped beam bulb

- ☐ Left headlight dipped beam bulb - M29-, right headlight dipped beam bulb - M31-







- ☐ 12 V, 55 W (H7)
- ☐ Renewing bulbs ⇒ [page 185](#)

#### 11 - Sealing frame

- ☐ Removing and installing ⇒ [page 148](#)

#### 12 - Breather hose

- ☐ For headlight housing

### 1.1.2 Exploded view - headlights, repair kit for headlight range control motor (halogen headlights)

#### 1 - Headlight housing

- ☐ Removing and installing  
⇒ [page 143](#)

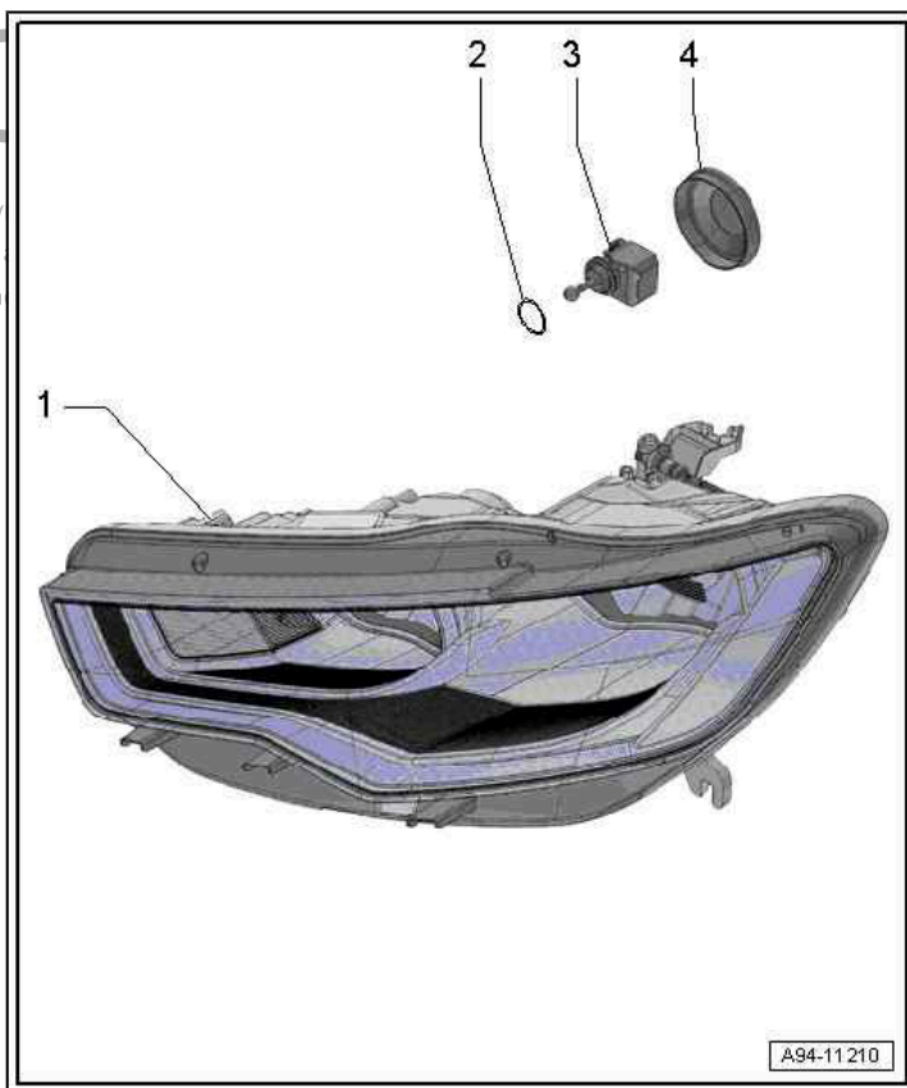
#### 2 - Seal

#### 3 - Headlight range control motor

- ☐ Left headlight range control motor - V48-, right headlight range control motor - V49-
- ☐ Removing and installing  
⇒ [page 205](#)

#### 4 - Housing cover for headlight range control motor

- ☐ Before renewing control motor, headlight housing must be cut open
- ☐ For subsequent sealing of assembly opening, housing cover is available ⇒ Electronic parts catalogue
- ☐ Removing and installing  
⇒ ["1.18.2 Removing and installing headlight range control motor V48 / V49 - gas discharge headlights up to model year 2014", page 207](#)



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### 1.1.3 Exploded view - headlights, gas discharge headlight up to model year 2014

1 - Bolt

- ☐ 3x
- ☐ 1.5 Nm

2 - Gas discharge bulb control unit

- ☐ Left gas discharge bulb control unit - J343- , right gas discharge bulb control unit - J344-
- ☐ Removing and installing ⇒ [page 191](#)

3 - Headlight housing

- ☐ USA vehicles: The front side marker light bulb (LED) is integrated in the headlight housing. The LED light cannot be renewed separately; the headlight must be renewed as a complete unit
- ☐ Removing and installing ⇒ [page 143](#)

4 - Filter membrane

- ☐ Removing and installing ⇒ [page 147](#)

5 - Breather

- ☐ For headlight housing

6 - Control unit for daytime running light and side light

- ☐ Control unit for left daytime running light and side light - J860- , control unit for right daytime running light and side light - J861-
- ☐ Removing and installing ⇒ [page 195](#)

7 - Bolt

- ☐ 3x
- ☐ 1.5 Nm

8 - Housing cover

9 - Front turn signal bulb

- ☐ Front left turn signal bulb - M5- , front right turn signal bulb - M7-
- ☐ 12 V, 24 W
- ☐ Renewing bulbs ⇒ [page 182](#)

10 - Housing cover

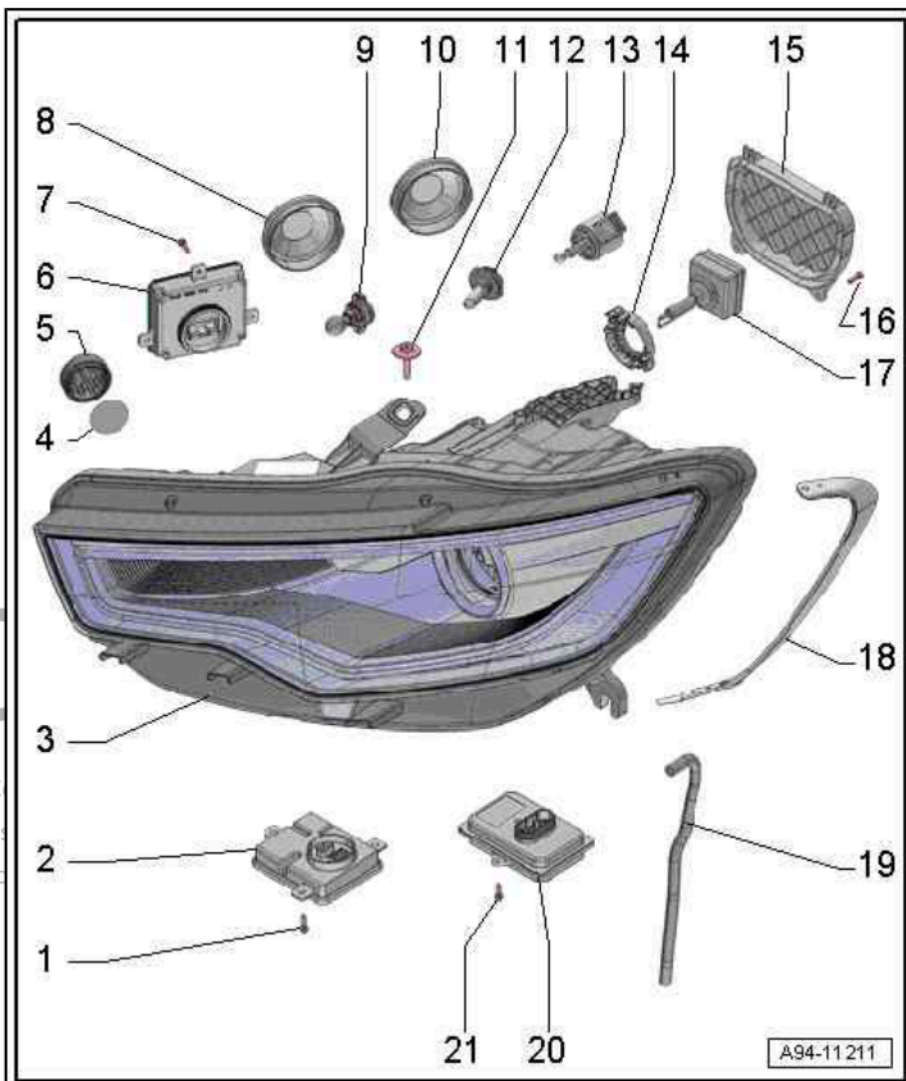
11 - Bolt

- ☐ 4.5 Nm

12 - Bulb

- ☐ 12 V, 55 W (H7)
- ☐ Renewing bulbs ⇒ [page 189](#)

Headlight without dynamic cornering light





- ☐ Left static cornering light - M51- , right static cornering light - M52-

Headlight with dynamic cornering light

- ☐ Left static cornering light - M51- , right static cornering light - M52-

13 - Headlight range control motor

- ☐ Left headlight range control motor - V48- , right headlight range control motor - V49-
- ☐ Removing and installing ⇒ [page 207](#)

14 - Adapter ring

- ☐ For gas discharge bulb

15 - Housing cover

16 - Bolt

- ☐ 2x
- ☐ 1.5 Nm

17 - Gas discharge bulb

- ☐ With integrated starter unit
- ☐ Left gas discharge (xenon) bulb - L13- , right gas discharge (xenon) bulb - L14-
- ☐ 42 V, 35 W (D3S)
- ☐ Renewing bulbs ⇒ [page 187](#)

18 - Sealing frame

- ☐ Removing and installing ⇒ [page 148](#)

19 - Breather hose

- ☐ For headlight housing

20 - Output module for headlight

- ☐ Only on vehicles with cornering light
- ☐ Output module for left headlight - J667- , output module for right headlight - J668- is not
- ☐ Removing and installing ⇒ [page 197](#). AUDI AG does not guarantee or accept any liability

21 - Bolt respect to the correctness of information in this document. Copyright by AUDI AG.

- ☐ 3x
- ☐ 1.5 Nm



## 1.1.4 Exploded view - headlights, gas discharge headlight from model year 2015 onwards

### 1 - Filter membrane

- ☐ Removing and installing  
⇒ [page 147](#)

### 2 - Headlight housing

- ☐ USA vehicles: The front side marker light bulb (LED) is integrated in the headlight housing. The LED light cannot be renewed separately; the headlight must be renewed as a complete unit
- ☐ Removing and installing  
⇒ [page 145](#)

### 3 - Front turn signal bulb

- ☐ Front left turn signal bulb - M5- , front right turn signal bulb - M7-
- ☐ 12 V, 24 W
- ☐ Renewing bulbs  
⇒ [page 183](#)

### 4 - Housing cover

### 5 - Housing cover

### 6 - Bulb

- ☐ Left static cornering light - M51- , right static cornering light - M52-
- ☐ 12 V, 55 W (H7)
- ☐ Renewing bulbs  
⇒ [page 190](#)

### 7 - Bolt

- ☐ 4.5 Nm

### 8 - Gas discharge bulb

- ☐ Integrated in left gas discharge bulb control unit - J343-

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- ☐ Integrated in right gas discharge bulb control unit - J344-
- ☐ Removing and installing ⇒ [page 193](#)

### 9 - Housing cover

### 10 - Sealing frame

- ☐ Removing and installing ⇒ [page 148](#)

### 11 - Breather hose

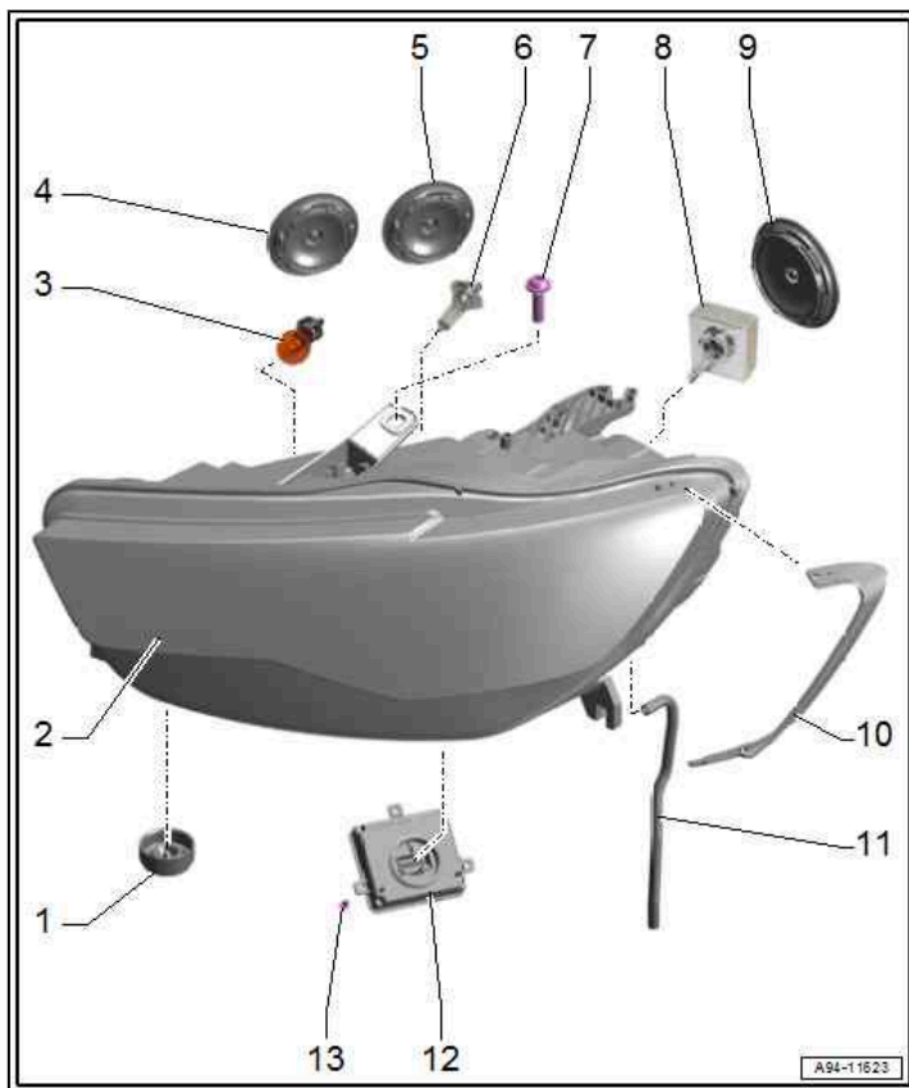
- ☐ For headlight housing

### 12 - Control unit for daytime running light and side light

- ☐ Control unit for left daytime running light and side light - J860- , control unit for right daytime running light and side light - J861-
- ☐ Removing and installing ⇒ [page 196](#)

### 13 - Bolt

- ☐ 3x





- ❑ 1.5 Nm

### 1.1.5 Exploded view - headlights, gas discharge headlight repair kit from model year 2015 onwards

Headlight range control motor, brackets for headlight housing

1 - Bolt

- ❑ 2x
- ❑ 1.8 Nm

2 - Inner bracket for headlight housing

- ❑ Renewing ⇒ [page 216](#)

3 - Headlight housing

4 - Bracket (top) for headlight housing

- ❑ Renewing ⇒ [page 216](#)

5 - Bolt

- ❑ 2x
- ❑ 1.8 Nm

6 - Headlight range control motor

- ❑ Left headlight range control motor - V48- , right headlight range control motor - V49-
- ❑ Removing and installing ⇒ [page 208](#)

7 - Housing cover for headlight range control motor

- ❑ Before renewing control motor, headlight housing must be cut open
- ❑ For subsequent sealing of assembly opening, housing cover is available ⇒ Electronic parts catalogue
- ❑ Removing and installing ⇒ ["1.18.3 Removing and installing headlight range control motor V48 / V49 - gas discharge headlights from model year 2015 onwards", page 208](#)

8 - Bracket (top) for headlight housing

- ❑ Renewing ⇒ [page 216](#)

9 - Bolt

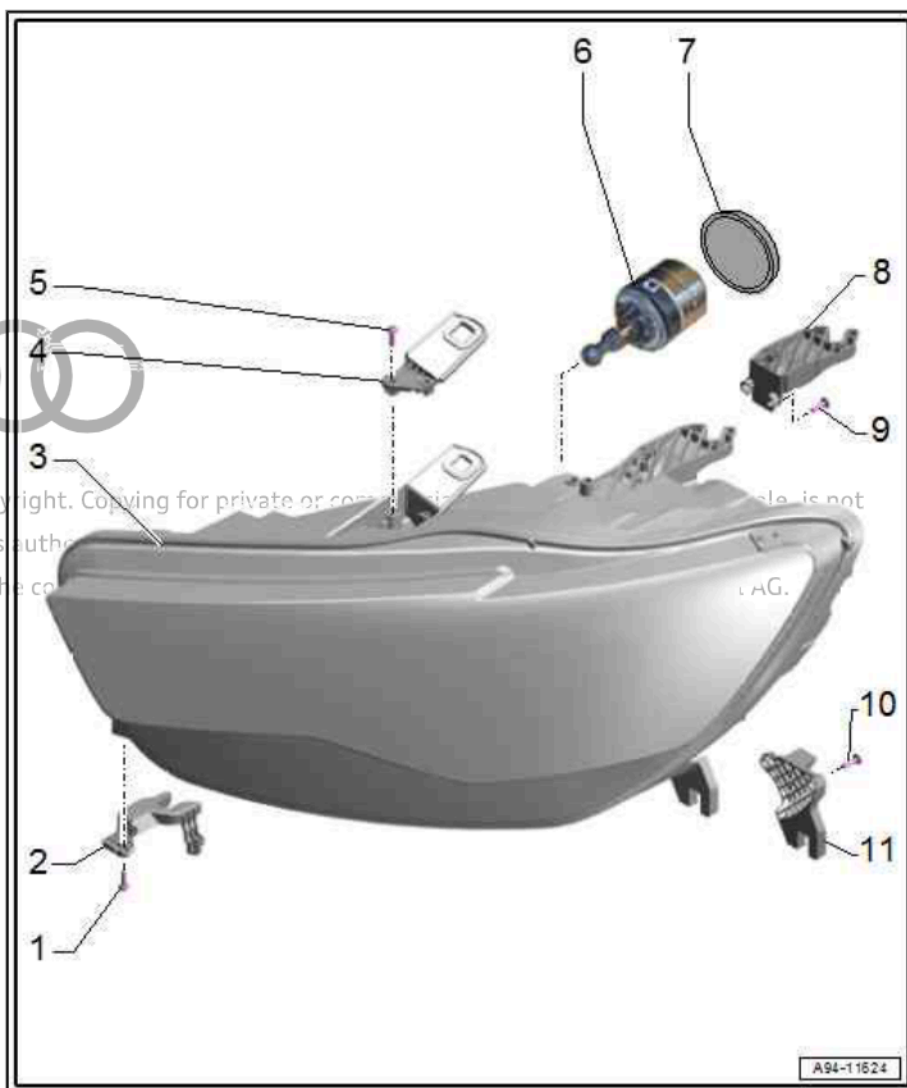
- ❑ 2x
- ❑ 1.8 Nm

10 - Bolt

- ❑ 2x
- ❑ 1.8 Nm

11 - Bracket (bottom) for headlight housing

- ❑ Renewing ⇒ [page 216](#)







## 1.1.6 Exploded view - headlights, LED headlight up to model year 2014

### 1 - Breather

- ☐ For headlight housing

### 2 - Filter membrane

- ☐ Removing and installing  
⇒ [page 147](#)

### 3 - Headlight housing

- ☐ USA vehicles: The front side marker light bulb (LED) is integrated in the headlight housing. The LED light cannot be renewed separately; the headlight must be renewed as a complete unit
- ☐ Removing and installing  
⇒ [page 143](#)

### 4 - Bolt

- ☐ 3x
- ☐ 1.5 Nm

### 5 - Output module 2 for LED headlight

- ☐ For daytime running lights/side lights, turn signal
- ☐ Output module 2 for left LED headlight - A32-, output module 2 for right LED headlight - A28-
- ☐ Removing and installing  
⇒ [page 201](#)

### 6 - Bolt

- ☐ 4x
- ☐ 1.5 Nm

### 7 - Mounting frame

- ☐ For fixing output module in place

### 8 - Output module 3 for LED headlight

- ☐ For static cornering light
- ☐ Output module 3 for left LED headlight - A33-, output module 3 for right LED headlight - A29-
- ☐ Removing and installing ⇒ [page 202](#)

### 9 - Housing cover

### 10 - Bolt

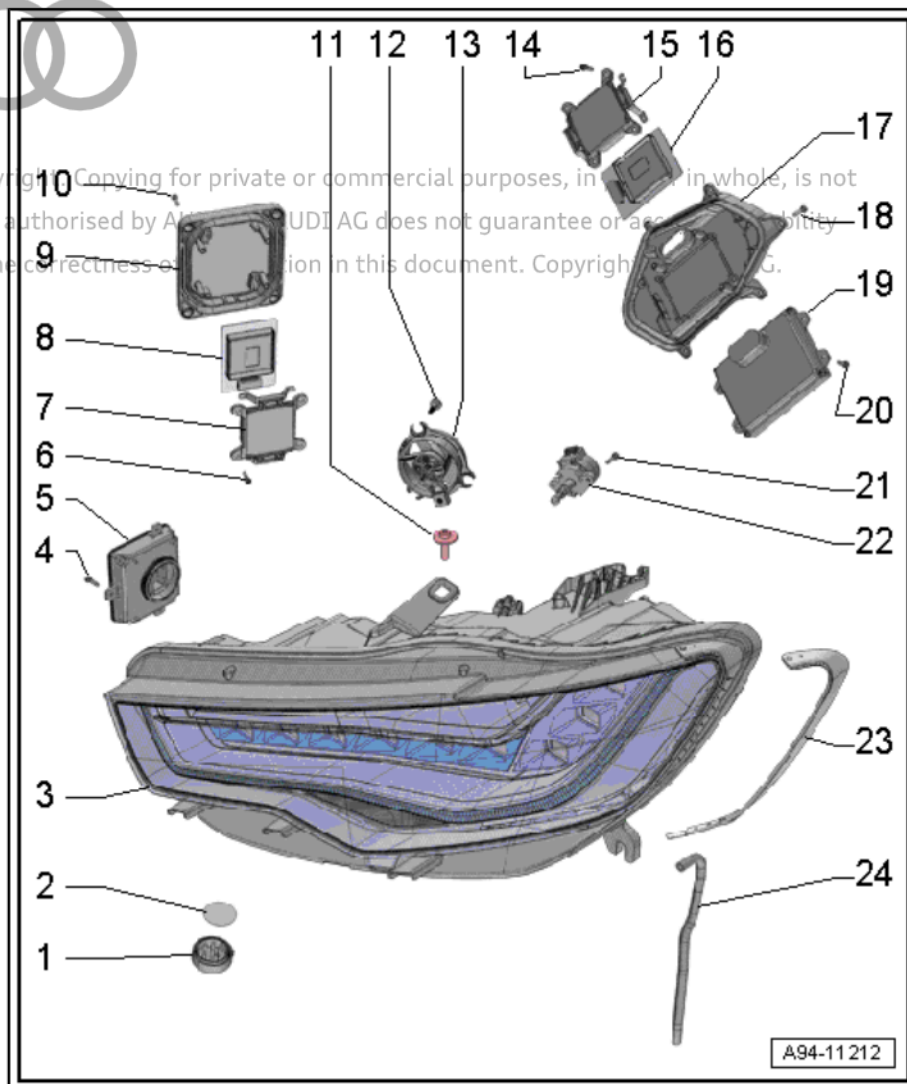
- ☐ 4x
- ☐ 1.5 Nm

### 11 - Bolt

- ☐ 4.5 Nm

### 12 - Bolt

- ☐ 3x
- ☐ 1 Nm





### 13 - Headlight fan

- ☐ Left headlight fan - V407- , right headlight fan - V408-
- ☐ Removing and installing ⇒ [page 213](#)

### 14 - Bolt

- ☐ 3x
- ☐ 1.5 Nm

### 15 - Mounting frame

- ☐ For fixing output module in place

### 16 - Output module 4 for LED headlight

- ☐ For turn signal 2
- ☐ Country-specific version
- ☐ Output module 4 for left LED headlight - A34- , output module 4 for right LED headlight - A30-
- ☐ Removing and installing ⇒ [page 204](#)

### 17 - Housing cover

### 18 - Bolt

- ☐ 6x
- ☐ 1.5 Nm

### 19 - Output module 1 for LED headlight

- ☐ For main light electronics
- ☐ Output module 1 for left LED headlight - A31- , output module 1 for right LED headlight - A27-
- ☐ Removing and installing ⇒ [page 199](#)

### 20 - Bolt

- ☐ 3x
- ☐ 1.5 Nm

### 21 - Bolt

- ☐ 2x
- ☐ 1.4 Nm

### 22 - Headlight range control motor

- ☐ Left headlight range control motor - V48-
- ☐ Right headlight range control motor - V49-
- ☐ Removing and installing ⇒ [page 210](#)

### 23 - Sealing frame

- ☐ Removing and installing ⇒ [page 148](#)

### 24 - Breather hose

- ☐ For headlight housing

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## 1.1.7 Exploded view - headlights, LED headlight from model year 2015 onwards

### 1 - Filter membrane

- ☐ Removing and installing  
⇒ [page 147](#)

### 2 - Headlight housing

- ☐ USA vehicles: The front side marker light bulb (LED) is integrated in the headlight housing. The LED light cannot be renewed separately; the headlight must be renewed as a complete unit
- ☐ Removing and installing  
⇒ [page 145](#)

### 3 - Mounting

- ☐ For output module 1 for LED headlight
- ☐ Removing and installing  
⇒ ["1.18.5 Removing and installing headlight range control motor V48 / V49 - LED headlights from model year 2015 onwards", page 211](#)

### 4 - Bolt

- ☐ 8x
- ☐ 1.5 Nm

### 5 - Output module 1 for LED headlight

- ☐ For main light electronics
- ☐ Output module 1 for left LED headlight - A31-, output module 1 for right LED headlight - A27-
- ☐ Removing and installing ⇒ [page 200](#)

### 6 - Bolt

- ☐ 4x
- ☐ 1.5 Nm

### 7 - Bolt

- ☐ 4.5 Nm

### 8 - Mounting

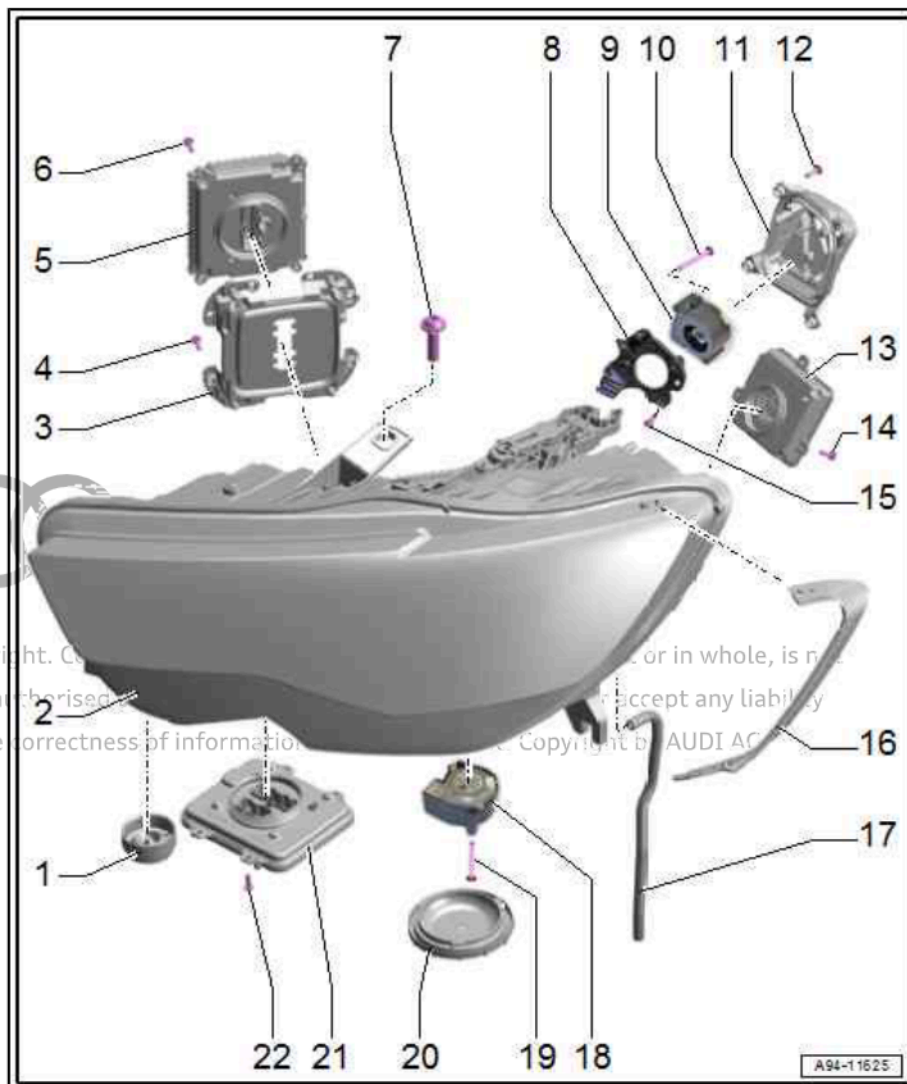
- ☐ For headlight fan
- ☐ Removing and installing  
⇒ ["1.19.2 Removing and installing headlight fan V407 / V408 - vehicles from model year 2015 onwards", page 215](#)

### 9 - Headlight fan

- ☐ Left headlight fan - V407-, right headlight fan - V408-
- ☐ Removing and installing ⇒ [page 215](#)

### 10 - Bolt

- ☐ 1.5 Nm





11 - Housing cover

12 - Bolt

- ☐ 4x
- ☐ 1.5 Nm

13 - Output module 2 for LED headlight

- ☐ For daytime running lights/side lights, turn signal
- ☐ Output module 2 for left LED headlight - A32- , output module 2 for right LED headlight - A28-
- ☐ Removing and installing ⇒ [page 201](#)

14 - Bolt

- ☐ 3x
- ☐ 1.5 Nm

15 - Bolt

- ☐ 2x
- ☐ 1.5 Nm

16 - Sealing frame

- ☐ Removing and installing ⇒ [page 148](#)

17 - Breather hose

- ☐ For headlight housing

18 - Headlight fan 2

- ☐ Left headlight fan 2 - V463- , right headlight fan 2 - V464-
- ☐ Removing and installing ⇒ [page 216](#)

19 - Bolt

- ☐ 2x
- ☐ 1.5 Nm

20 - Housing cover

21 - Output module for matrix headlight

- ☐ For Audi matrix LED headlight
- ☐ Output module for left matrix headlight - A44- , output module for right matrix headlight - A45-
- ☐ Removing and installing ⇒ [page 205](#)

22 - Bolt

- ☐ 4x
- ☐ 1.5 Nm

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## 1.1.8 Exploded view - headlights, LED headlight repair kit from model year 2015 onwards

Headlight range control motor, bracket for headlight housing

### 1 - Headlight housing

### 2 - Bracket (top) for headlight housing

- ❑ Renewing ⇒ [page 216](#)

### 3 - Bolt

- ❑ 2x
- ❑ 1.8 Nm

### 4 - Bolt

- ❑ 2x
- ❑ 1.8 Nm

### 5 - Bracket

- ❑ For headlight range control motor
- ❑ Removing and installing ⇒ ["1.18.5 Removing and installing headlight range control motor V48 / V49 - LED headlights from model year 2015 onwards", page 211](#)

### 6 - Headlight range control motor

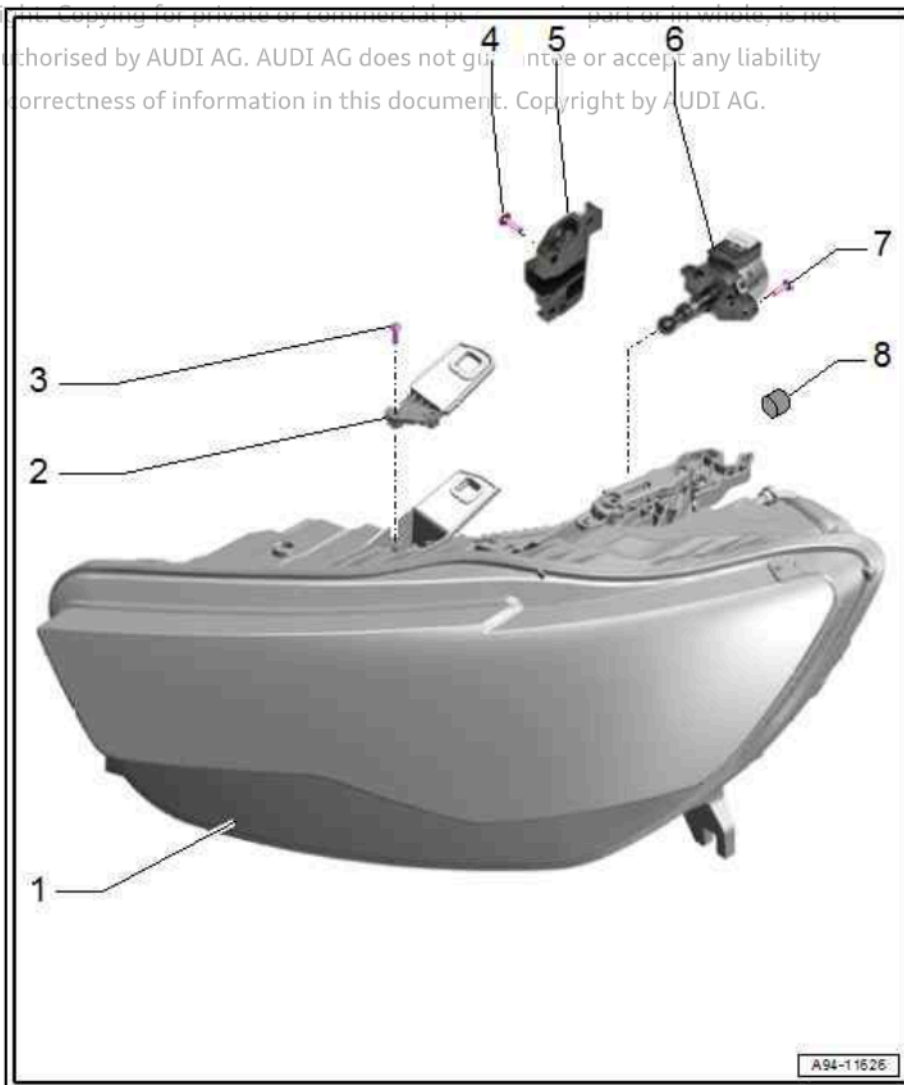
- ❑ Left headlight range control motor - V48- , right headlight range control motor - V49-
- ❑ Removing and installing ⇒ [page 211](#)

### 7 - Bolt

- ❑ 2x
- ❑ 1.4 Nm

### 8 - Grommet

- ❑ Before renewing control motor, headlight housing must be opened
- ❑ A grommet is available for the subsequent sealing of the assembly opening ⇒ Electronic parts catalogue
- ❑ Removing and installing ⇒ ["1.18.5 Removing and installing headlight range control motor V48 / V49 - LED headlights from model year 2015 onwards", page 211](#)







## 1.2 Removing and installing headlights

⇒ ["1.2.1 Removing and installing headlight housing - halogen headlights", page 142](#)

⇒ ["1.2.2 Removing and installing headlight housing - gas discharge headlights and LED headlights up to model year 2014", page 143](#)

⇒ ["1.2.3 Removing and installing headlight housing - gas discharge headlights and LED headlights from model year 2015 onwards", page 145](#)

⇒ ["1.2.4 Removing and installing filter membrane - halogen headlights and gas discharge headlights up to model year 2014", page 147](#)

⇒ ["1.2.5 Removing and installing filter membrane - LED headlights up to model year 2014", page 147](#)

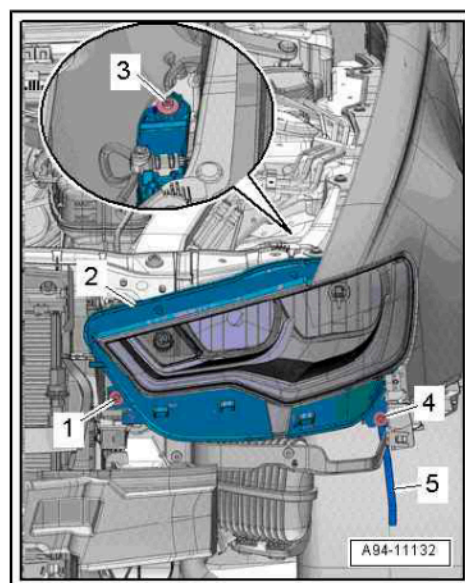
⇒ ["1.2.6 Removing and installing filter membrane - gas discharge headlights and LED headlights from model year 2015 onwards", page 147](#)

⇒ ["1.2.7 Removing and installing sealing frame", page 148](#)

### 1.2.1 Removing and installing headlight housing - halogen headlights

#### Removing

- Turn light switch to position "0".
- Remove bumper cover (front) ⇒ General body repairs, exterior; Rep. gr. 63 ; Bumper (front); Removing and installing bumper cover .
- Remove bolts -1, 4-.
- Slacken off bolt -3- four turns.
- Remove headlight housing -2- forwards ensuring that breather hose -5- does not get caught.
- Unplug electrical connector and detach headlight housing.

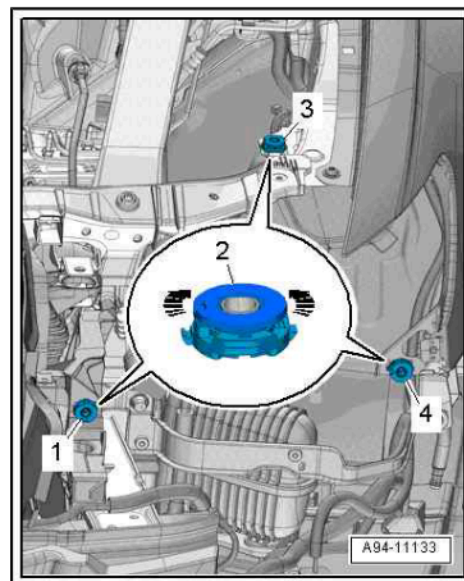




## Installing

Installation is carried out in reverse order; note the following:

- Check that adjuster nut -2- of adjusters -1, 3, 4- turns freely -arrows-.
- Screw down adjuster nut as far as it will go, but do not tighten.



- Insert headlight housing -2- ensuring that breather hose -5- hangs freely in wheel housing.
- Align headlight housing at edge of wing and tighten bolt -3-.
- Headlight housing must be flush with edge of wing.
- Tighten bolts -1 and 4-.



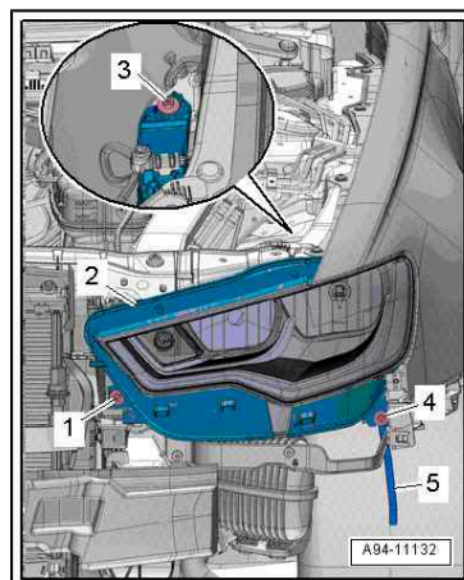
### Note

*When the bolt is tightened, the adjuster nut of the adjuster element automatically rotates against the mounting point of the headlight housing and fixes it in place.*

- Adjust headlights ➔ [page 148](#) .

### Tightening torques

- ◆ ➔ ["1.1.1 Exploded view - headlights, halogen headlight", page 131](#)



## 1.2.2 Removing and installing headlight housing - gas discharge headlights and LED headlights up to model year 2014



### WARNING

*High voltage! Danger to life!*

- ◆ *Ensure that any part of the gas discharge headlights marked with yellow high-voltage warning symbols are de-energised when you are working on them.*
- ◆ *Switch off ignition and all electrical equipment, and remove ignition key.*
- ◆ *Do not flash the headlights.*

## Removing

- Turn light switch to position "0".



- Switch off ignition and all electrical equipment, and remove ignition key.
- Do not flash the headlights.
- Remove bumper cover (front) ⇒ General body repairs, exterior; Rep. gr. 63 ; Bumper (front); Removing and installing bumper cover .
- Remove bolts -1, 3, 5-.
- Slacken off bolt -4- four turns.
- Remove headlight housing -2- forwards ensuring that breather hose -6- does not get caught.
- Unplug electrical connector and detach headlight housing.

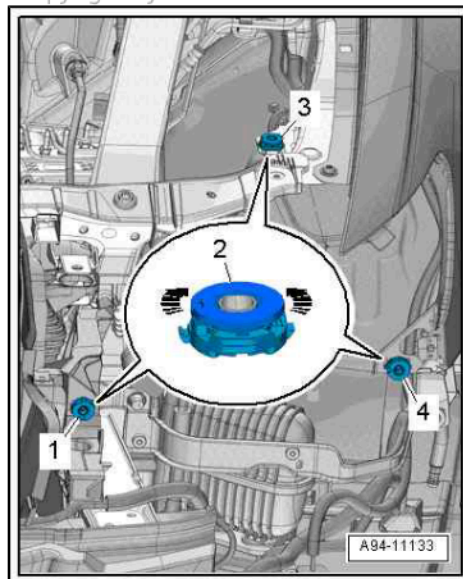
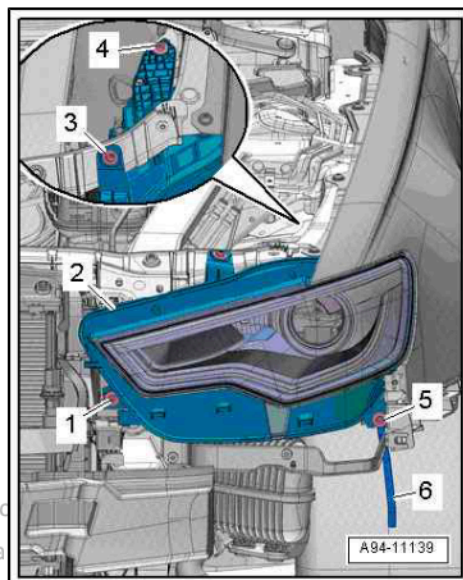


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#### Installing

Installation is carried out in reverse order; note the following:

- Check that adjuster nut -2- of adjusters -1, 3, 4- turns freely -arrows-.
- Screw down adjuster nut as far as it will go, but do not tighten.







- Insert headlight housing -2- ensuring that breather hose -6- hangs freely in wheel housing.
- Align headlight housing at edge of wing and tighten bolt -3-.
- Headlight housing must be flush with edge of wing.
- Tighten bolts -1, 4, 5-.



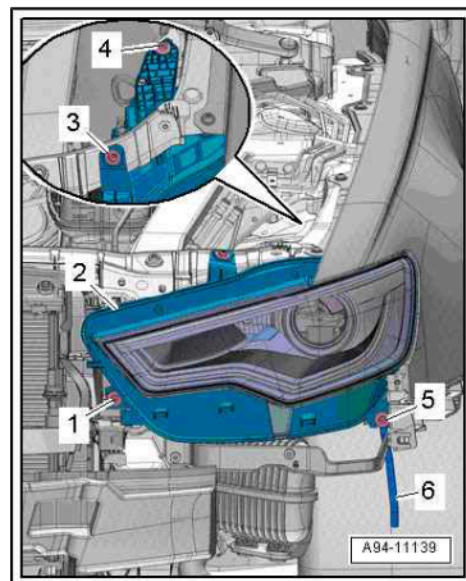
#### Note

*When the bolt is tightened, the adjuster nut of the adjuster element automatically rotates against the mounting point of the headlight housing and fixes it in place.*

- Adjust headlights ➔ [page 148](#) .

#### Tightening torques

- ◆ ➔ ["1.1.3 Exploded view - headlights, gas discharge headlight up to model year 2014", page 133](#)
- ◆ ➔ ["1.1.6 Exploded view - headlights, LED headlight up to model year 2014", page 137](#)



### 1.2.3 Removing and installing headlight housing - gas discharge headlights and LED headlights from model year 2015 onwards



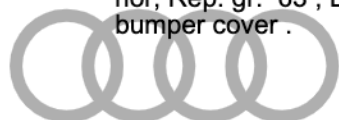
#### WARNING

*High voltage! Danger to life!*

- ◆ *Ensure that any part of the gas discharge headlights marked with yellow high-voltage warning symbols are de-energised when you are working on them.*
- ◆ *Switch off ignition and all electrical equipment, and remove ignition key.*
- ◆ *Do not flash the headlights.*

#### Removing

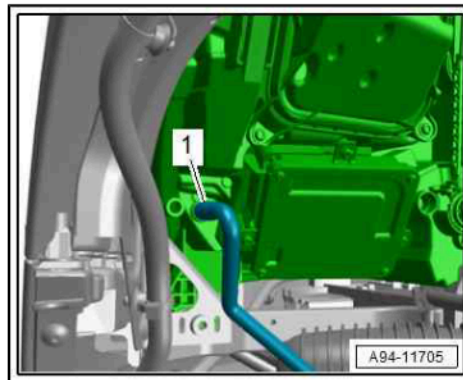
- Turn light switch to position "0".
- Switch off the ignition and all electrical equipment and store the ignition key outside the vehicle.
- Do not flash the headlights.
- Remove bumper cover (front) ➔ General body repairs, exterior; Rep. gr. 63 ; Bumper (front); Removing and installing bumper cover .



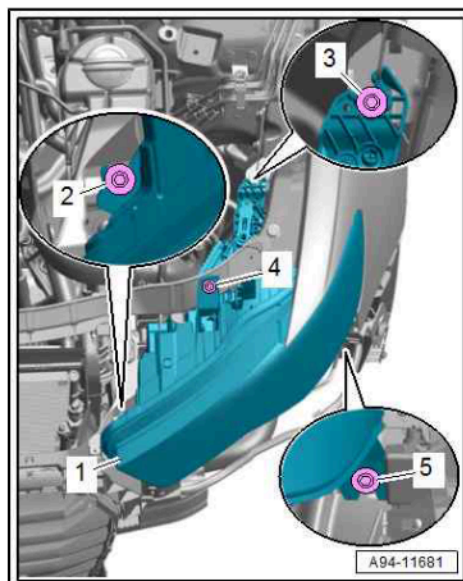
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- Disconnect breather hose -1-.



- Remove bolts -4, 5-.
- Slacken off bolts -2, 3- four turns.
- Left-side: Move wiring harness clear at headlight housing.
- Pull headlight housing -1- towards front and unplug electrical connector.
- Detach headlight housing.



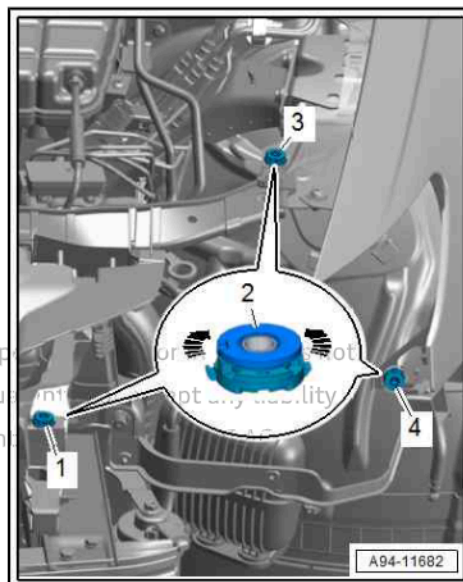
### Installing

Installation is carried out in reverse order; note the following:

- Check that adjuster nut -2- of adjusters -1, 3, 4- turns freely -arrows-.
- Screw down adjuster nut as far as it will go, but do not tighten.



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- Insert headlight housing -1- and slide breather hose onto connection.
- Align headlight housing at edge of wing and tighten bolt -5-.
- Headlight housing must be flush with edge of wing.
- Tighten bolts -2-, 3, 6-.



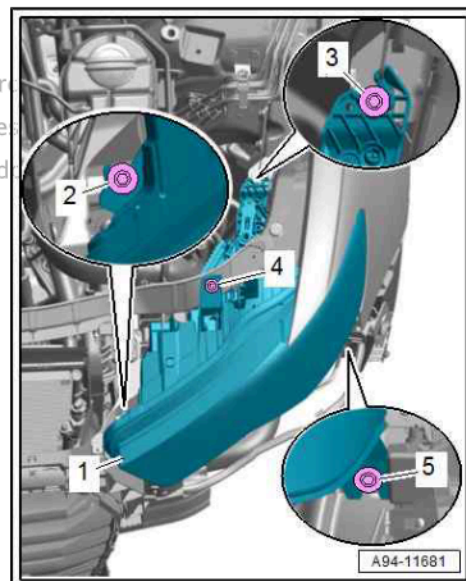
#### Note

*When the bolt is tightened, the adjuster nut of the adjuster element automatically rotates against the mounting point of the headlight housing and fixes it in place.*

- Left-side: Secure wiring harness -4-.
- Adjust headlights ➔ [page 148](#) .

#### Tightening torques

- ◆ ➔ ["1.1.4 Exploded view - headlights, gas discharge headlight from model year 2015 onwards"](#), page 135
- ◆ ➔ ["1.1.7 Exploded view - headlights, LED headlight from model year 2015 onwards"](#), page 139



### 1.2.4 Removing and installing filter membrane - halogen headlights and gas discharge headlights up to model year 2014

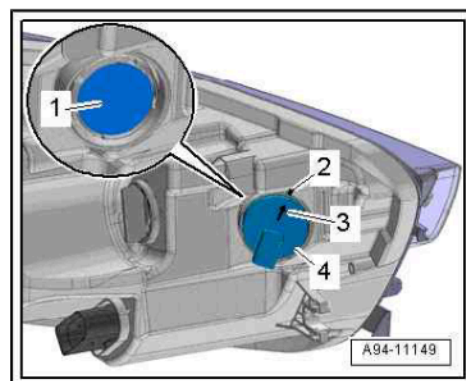
#### Removing

- Remove lock carrier cover ➔ General body repairs, exterior; Rep. gr. 63 ; Bumper (front); Removing and installing attachments .
- Detach breather -4- from headlight housing.
- Take out filter membrane -1-.

#### Installing

Installation is carried out in reverse order; note the following:

- Press breather into headlight housing as far as stop ensuring that arrow -3- and marking -2- align.



### 1.2.5 Removing and installing filter membrane - LED headlights up to model year 2014

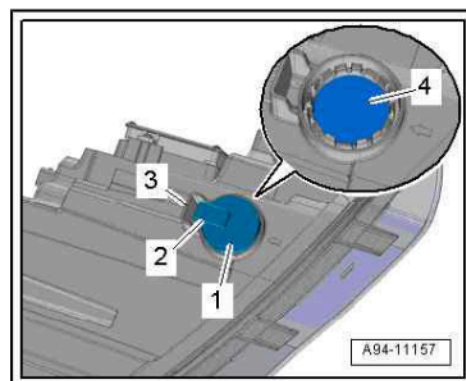
#### Removing

- Remove headlight housing ➔ [page 143](#) .
- Detach breather -1- from headlight housing.
- Take out filter membrane -4-.

#### Installing

Installation is carried out in reverse order; note the following:

- The opening -2- on the breather must face projection -3-.
- Press breather onto headlight housing as far as stop.



### 1.2.6 Removing and installing filter membrane - gas discharge headlights and LED



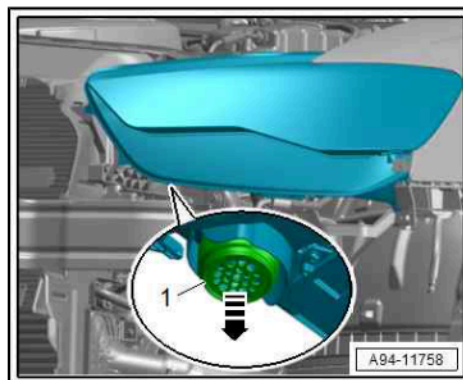
## headlights from model year 2015 onwards

### Removing

- Remove bumper cover (front) ⇒ General body repairs, exterior; Rep. gr. 63 ; Bumper (front); Removing and installing bumper cover .
- Pry off filter membrane -1- -arrow- and detach.

### Installing

Installation is carried out in reverse sequence.



## 1.2.7 Removing and installing sealing frame

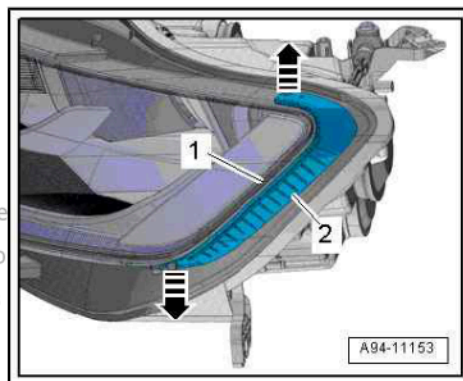
### Removing

- Remove headlight housing ⇒ [page 142](#) .
- Unfasten sealing frame -2- at top and bottom of headlight housing -1- -arrows- and remove.

### Installing

Installation is carried out in reverse sequence.

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## 1.3 Adjusting headlights

⇒ ["1.3.1 Adjusting headlights", page 148](#)

⇒ ["1.3.2 Adjusting halogen headlights - rest-of-the-world vehicles", page 149](#)

⇒ ["1.3.3 Adjusting gas discharge headlights - rest-of-the-world vehicles up to model year 2014", page 151](#)

⇒ ["1.3.4 Adjusting gas discharge headlights - rest-of-the-world vehicles from model year 2015 onwards", page 154](#)

⇒ ["1.3.5 Adjusting LED headlights - rest-of-the-world vehicles up to model year 2014", page 157](#)

⇒ ["1.3.6 Adjusting LED headlights - all vehicles from model year 2015 onwards", page 161](#)

⇒ ["1.3.7 Adjusting halogen headlights - USA vehicles", page 165](#)

⇒ ["1.3.8 Adjusting gas discharge headlights - USA vehicles up to model year 2014", page 167](#)

⇒ ["1.3.9 Adjusting LED headlights - USA vehicles up to model year 2014", page 170](#)

### 1.3.1 Adjusting headlights

- ◆ The following checking and adjustment procedures apply to all countries.
- ◆ However, national legislation and guidelines for individual countries must be adhered to.



### 1.3.2 Adjusting halogen headlights - rest-of-the-world vehicles

Requirements for checking and adjusting

- Tyre pressure OK.
- Headlight lenses must be clean and dry.
- Headlight lenses must not be damaged.
- Reflectors and bulbs OK.
- Vehicle correctly loaded.

Vehicle loading: driver's seat occupied, otherwise vehicle unloaded (unladen weight).

- One person or 75 kg.

The unladen weight is the weight of the vehicle ready for operation with full fuel tank including the weight of all equipment normally carried.

- Fuel tank: at least 90% full.
- Equipment: e.g. spare wheel, tools, jack, fire extinguisher etc.

If the fuel tank is not at least 90 % full, put in additional weight as follows:

- Read off fuel tank level at fuel gauge in instrument cluster, compare with the following table and, if necessary, place additional weight in luggage compartment.

Fuel gauge	Additional weight in kg	
	65 litre fuel tank	75 litre fuel tank
1/4	49	57
1/2	33	38
3/4	16	19
Full	0	0

Example: If fuel tank is half full, place an additional weight of 38 kg into luggage compartment.



Note

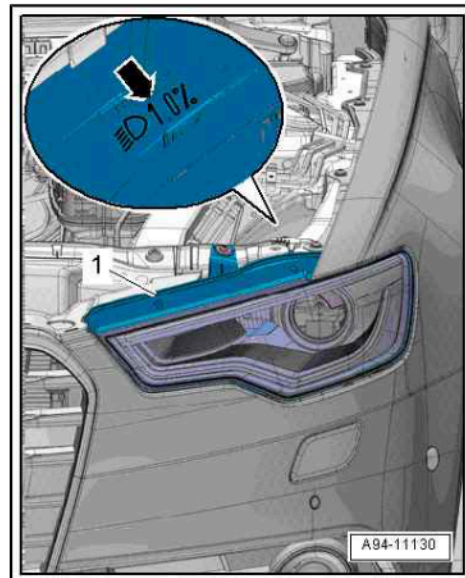
*Use canisters filled with water as additional weight (a 5 litre canister filled with water weighs approx. 5 kg).*



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- Roll vehicle several metres or depress front and rear springs fully several times so that springs settle correctly.
- Release electromechanical parking brake to relieve any load on suspension.
- Vehicle and headlight adjustment unit must be on a level surface.
- Vehicle and headlight adjustment unit must be aligned correctly with each other. To achieve this, place headlight adjustment unit the specified distance in front of the vehicle (centrally) and align it with the front of the vehicle ⇒ Operating instructions for headlight adjustment unit .
- Move the headlight adjustment unit in front of the appropriate headlight and check alignment again.
- Dip setting must be set on headlight adjustment unit ⇒ Operating instructions for headlight adjustment unit .
- Dip setting -arrow- is marked on top edge of headlight -1- in “%” for ECE countries.
- Dip setting for USA is usually 0.7%.



#### Note

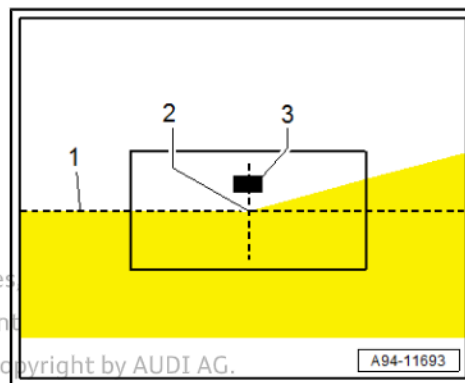
*The percentage value is for a range of 10 m. Example: Converting a dip setting of 1.0% = 10 cm.*

#### Preparations

- Turn light switch to “dipped beam” position – not to “Auto” position.
- Set knurled wheel for headlight range control to position “0”.

#### Headlight adjustment

- The horizontal light-dark border should coincide with the setting line -1- of the test surface on the headlight adjustment unit.
- The break-away point -2- between the horizontal section of the light-dark border on the left and the rising section on the right should coincide with the vertical line running through the central point -3-. The bright spot in the centre of the beam should be to the right of the vertical line.



#### Note

- ♦ *To make it easier to find break-away point -2-, cover and uncover left half of headlight (as seen in direction of travel) a few times. Then check dipped beam again.*
- ♦ *If dipped beams have been adjusted correctly the centre point of the main beam should lie on central point -3-.*



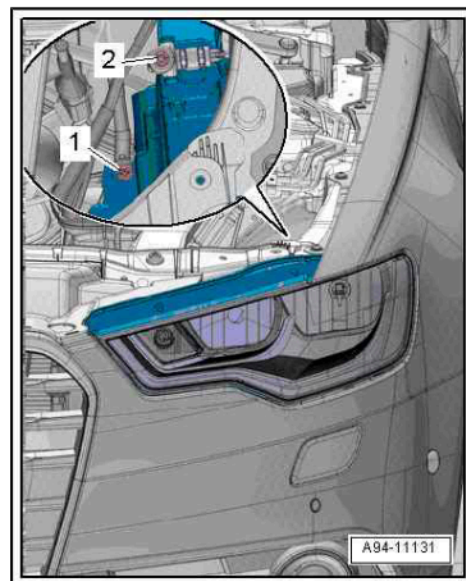


- Before adjusting height of headlight, use adjuster screw -1- to position light-dark border below setting line.
- Then adjust light-dark border to setting line from below.
- Turn adjuster screw -2- for lateral adjustment.



Note

*The arrangement of the adjuster screws on the right headlight is symmetrically opposite.*



### 1.3.3 Adjusting gas discharge headlights - rest-of-the-world vehicles up to model year 2014

Requirements for checking and adjusting

- Tyre pressure OK.
- Headlight lenses must be clean and dry.
- Headlight lenses must not be damaged.

Reflectors and bulbs OK.

Vehicles with steel springs:

- Vehicle correctly loaded.

Vehicle loading: driver's seat occupied, otherwise vehicle unloaded (unladen weight).

- One person or 75 kg.

The unladen weight is the weight of the vehicle ready for operation with full fuel tank including the weight of all equipment normally carried.

- Fuel tank: at least 90% full.
- Equipment: e.g. spare wheel, tools, jack, fire extinguisher etc.

If the fuel tank is not at least 90 % full, put in additional weight as follows:

- Read off fuel tank level at fuel gauge in instrument cluster, compare with the following table and, if necessary, place additional weight in luggage compartment.

Fuel gauge	Additional weight in kg	
	65 litre fuel tank	75 litre fuel tank
1/4	49	57
1/2	33	38
3/4	16	19
Full	0	0

Example: If fuel tank is half full, place an additional weight of 38 kg into luggage compartment.





#### Note

*Use canisters filled with water as additional weight (a 5 litre canister filled with water weighs approx. 5 kg).*

Vehicles with air suspension:

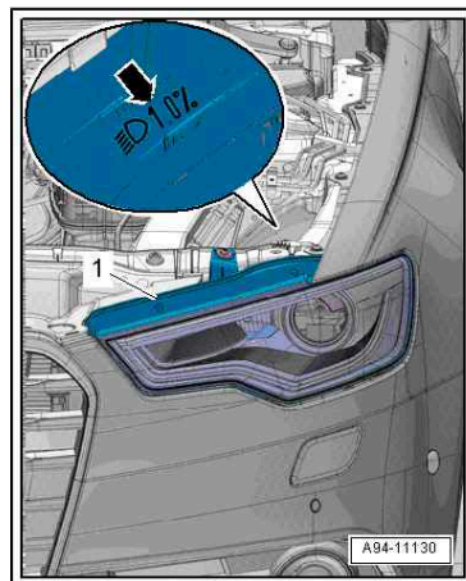
- Air reservoir full, if necessary start engine and allow to run at idling speed for approx. 2 minutes.

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#### All vehicles (continued):

- Release electromechanical parking brake to relieve any load on suspension.
- Vehicle and headlight adjustment unit must be on a level surface.
- Vehicle and headlight adjustment unit must be aligned correctly with each other. To achieve this, place headlight adjustment unit the specified distance in front of the vehicle (centrally) and align it with the front of the vehicle ⇒ Operating instructions for headlight adjustment unit .
- Move the headlight adjustment unit in front of the appropriate headlight and check alignment again.
- Dip setting must be set on headlight adjustment unit ⇒ Operating instructions for headlight adjustment unit .
- Dip setting -arrow- is marked on top edge of headlight -1- in “%” for ECE countries.
- Dip setting for USA is usually 0.7%.



#### Note

*The percentage value is for a range of 10 m. Example: Converting a dip setting of 1.0% = 10 cm.*

#### Preparations

- Turn light switch to “dipped beam” position – not to “Auto” position.
- Close all doors and the rear lid and keep them closed during the complete checking and adjusting procedure.

#### Procedure

- Connect ⇒ Vehicle diagnostic tester.
- Select **Diagnosis** mode and begin diagnosis.
- Select **Test plan** tab.
- Choose **Select own test** and select following options one after the other:
  - ◆ Body
  - ◆ Electrical system
  - ◆ 01 - Self-diagnosis compatible systems
  - ◆ 55 - Dynamic headlight range control - J431/J745
  - ◆ 55 - Headlight range control, functions
  - ◆ 55 - Basic setting



#### Note

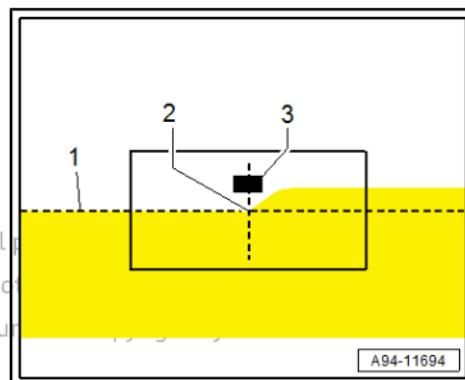
- ◆ *With this programme the headlights return to the basic setting.*
- ◆ *On vehicles with air suspension, the running gear is set to normal air spring level with this programme.*
- Continue to follow the instructions on the display of the vehicle diagnostic tester.



- You will be instructed to perform headlight adjustment while running through the programme.

#### Headlight adjustment

- The horizontal light-dark border should coincide with the setting line -1- of the test surface on the headlight adjustment unit.
- The break-away point -2- between the horizontal section of the light-dark border on the left and the rising section on the right should coincide with the vertical line running through the central point -3-. The bright spot in the centre of the beam should be to the right of the vertical line.



**Note** with respect to the correctness of information in this document.

- ◆ To make it easier to find break-away point -2-, cover and uncover left half of headlight (as seen in direction of travel) a few times. Then check dipped beam again.
- ◆ If dipped beams have been adjusted correctly the centre point of the main beam should lie on central point -3-.

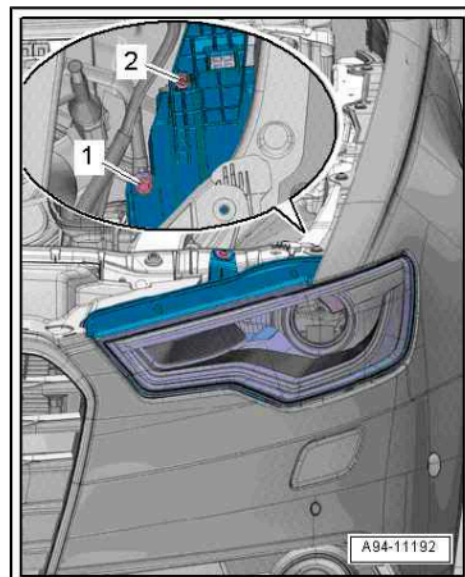
- If fitted, lever off cap for height adjuster screw.
- Before adjusting height of headlight, use adjuster screw -1- to position light-dark border above setting line.
- Then adjust light-dark border to setting line from above.
- Turn adjuster screw -2- for lateral adjustment.



**Note**

*The arrangement of the adjuster screws on the right headlight is symmetrically opposite.*

- After completing headlight adjustment, again follow the instructions on the display of the vehicle diagnostic tester to exit normal air spring level.



**Note**

*If the programme is terminated too early the normal air spring level must be deactivated manually ⇒ Running gear, axles, steering; Rep. gr. 43; Electronic damping control.*

- Unplug diagnostic connector.

### 1.3.4 Adjusting gas discharge headlights - rest-of-the-world vehicles from model year 2015 onwards

#### Requirements for checking and adjusting

- Tyre pressure OK.
- Headlight lenses must be clean and dry.
- Headlight lenses must not be damaged.
- Reflectors and bulbs OK.



Vehicles with steel springs:

- Vehicle correctly loaded.

Vehicle loading: driver's seat occupied, otherwise vehicle unloaded (unladen weight).

- One person or 75 kg.

The unladen weight is the weight of the vehicle ready for operation with full fuel tank including the weight of all equipment normally carried.

- Fuel tank: at least 90% full.
- Equipment: e.g. spare wheel, tools, jack, fire extinguisher etc.

If the fuel tank is not at least 90 % full, put in additional weight as follows:

- Read off fuel tank level at fuel gauge in instrument cluster, compare with the following table and, if necessary, place additional weight in luggage compartment.

Fuel gauge	Additional weight in kg		
	55 litre fuel tank	65 litre fuel tank	75 litre fuel tank
1/4	42	49	57
1/2	28	33	38
3/4	14	16	19
Full	0	0	0

Example: If fuel tank is half full, place an additional weight of 38 kg into luggage compartment.



Note

*Use canisters filled with water as additional weight (a 5 litre canister filled with water weighs approx. 5 kg).*

Vehicles with air suspension:

- Air reservoir full, if necessary start engine and allow to run at idling speed for approx. 2 minutes.



All vehicles (continued):

- Release electromechanical parking brake to relieve any load on suspension.
- Vehicle and headlight adjustment unit must be on a level surface.
- Vehicle and headlight adjustment unit must be aligned correctly with each other. To achieve this, place headlight adjustment unit the specified distance in front of the vehicle (centrally) and align it with the front of the vehicle ⇒ Operating instructions for headlight adjustment unit .
- Move the headlight adjustment unit in front of the appropriate headlight and check alignment again.
- Dip setting must be set on headlight adjustment unit ⇒ Operating instructions for headlight adjustment unit .
- Dip setting -arrow- is marked on top edge of headlight -1- in “%” for ECE countries.
- Dip setting for USA is usually 0.7%.



#### Note

*The percentage value is for a range of 10 m. Example: Converting a dip setting of 1.0% = 10 cm.*

#### Preparations

- Turn light switch to “dipped beam” position – not to “Auto” position.
- Close all doors and the rear lid and keep them closed during the complete checking and adjusting procedure.

#### Procedure

- Connect ⇒ Vehicle diagnostic tester.
- Select **Diagnosis** mode and begin diagnosis.
- Select **Test plan** tab.
- Choose **Select own test** and select following options one after the other:
  - ◆ Body
  - ◆ Electrical system
  - ◆ 01 - Self-diagnosis compatible systems
  - ◆ 09 - Electronic central electrics J519
  - ◆ 09 - Onboard supply control unit, functions
  - ◆ 09 - Basic setting for headlights (Repair Group 94)



#### Note

- ◆ *With this programme the headlights return to the basic setting.*
- ◆ *On vehicles with air suspension, the running gear is set to normal air spring level with this programme.*
- Continue to follow the instructions on the display of the vehicle diagnostic tester.





- You will be instructed to perform headlight adjustment while running through the programme.

#### Headlight adjustment

- The horizontal light-dark border should coincide with the setting line -1- of the test surface on the headlight adjustment unit.
- The break-away point -2- between the horizontal section of the light-dark border on the left and the rising section on the right should coincide with the vertical line running through the central point -3-. The bright spot in the centre of the beam should be to the right of the vertical line.



#### Note

- ◆ *To make it easier to find break-away point -2-, cover and uncover left half of headlight (as seen in direction of travel) a few times. Then check dipped beam again.*
- ◆ *If dipped beams have been adjusted correctly the centre point of the main beam should lie on central point -3-.*

- If fitted, lever off cap for height adjuster screw.
- Before adjusting height of headlight, use adjuster screws -1, 2- to position light-dark border above setting line.
- Then adjust light-dark border to setting line from above.



#### Note

*The adjuster screws -1, 2- must be screwed in an equal number of turns.*

- Turn adjuster screw -1- for lateral adjustment.



#### Note

*The arrangement of the adjuster screws on the right headlight is symmetrically opposite.*

- After completing headlight adjustment, again follow the instructions on the display of the vehicle diagnostic tester to exit normal air spring level.



#### Note

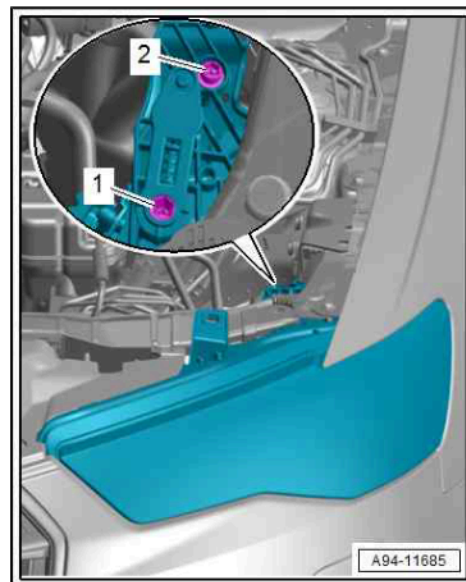
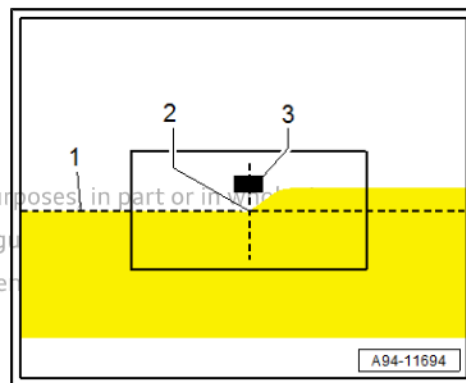
*If the programme is terminated too early the normal air spring level must be deactivated manually ➔ Running gear, axles, steering; Rep. gr. 43 ; Electronic damping control .*

- Unplug diagnostic connector.

### 1.3.5 Adjusting LED headlights - rest-of-the-world vehicles up to model year 2014

#### Requirements for checking and adjusting

- Tyre pressure OK.
- Headlight lenses must be clean and dry.





- Headlight lenses must not be damaged.
- Reflectors and bulbs OK.

Vehicles with steel springs:

- Vehicle correctly loaded.

Vehicle loading: driver's seat occupied, otherwise vehicle unloaded (unladen weight).

- One person or 75 kg.

The unladen weight is the weight of the vehicle ready for operation with full fuel tank including the weight of all equipment normally carried.

- Fuel tank: at least 90% full.
- Equipment: e.g. spare wheel, tools, jack, fire extinguisher etc.

If the fuel tank is not at least 90 % full, put in additional weight as follows:

- Read off fuel tank level at fuel gauge in instrument cluster, compare with the following table and, if necessary, place additional weight in luggage compartment.

Fuel gauge	Additional weight in kg	
	65 litre fuel tank	75 litre fuel tank
1/4	49	57
1/2	33	38
3/4	16	19
Full	0	0

Example: If fuel tank is half full, place an additional weight of 38 kg into luggage compartment.



**Note**

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*Use canisters filled with water as additional weight (a 5 litre canister filled with water weighs approx. 5 kg).*

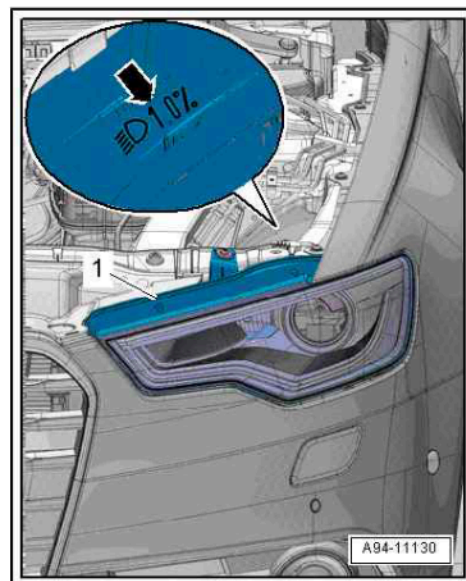
Vehicles with air suspension:

- Air reservoir full, if necessary start engine and allow to run at idling speed for approx. 2 minutes.



#### All vehicles (continued):

- Release electromechanical parking brake to relieve any load on suspension.
- Vehicle and headlight adjustment unit must be on a level surface.
- Vehicle and headlight adjustment unit must be aligned correctly with each other. To achieve this, place headlight adjustment unit the specified distance in front of the vehicle (centrally) and align it with the front of the vehicle ⇒ Operating instructions for headlight adjustment unit .
- Move the headlight adjustment unit in front of the appropriate headlight and check alignment again.
- Dip setting must be set on headlight adjustment unit ⇒ Operating instructions for headlight adjustment unit .
- Dip setting -arrow- is marked on top edge of headlight -1- in “%” for ECE countries.
- Dip setting for USA is usually 0.7%.



#### Note

*The percentage value is for a range of 10 m. Example: Converting a dip setting of 1.0% = 10 cm.*

#### Preparations

- Turn light switch to “dipped beam” position – not to “Auto” position.
- Close all doors and the rear lid and keep them closed during the complete checking and adjusting procedure.

#### Procedure

- Connect ⇒ Vehicle diagnostic tester.
- Select **Diagnosis** mode and begin diagnosis.
- Select **Test plan** tab.
- Choose **Select own test** and select following options one after the other:
  - ◆ Body
  - ◆ Electrical system
  - ◆ 01 - Self-diagnosis compatible systems
  - ◆ 55 - Dynamic headlight range control - J431/J745
  - ◆ 55 - Headlight range control, functions
  - ◆ 55 - Basic setting



#### Note

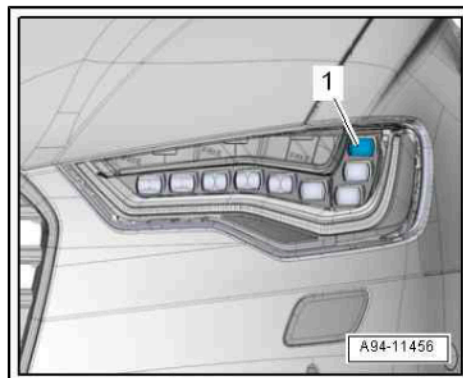
- ◆ *With this programme the headlights return to the basic setting.*
- ◆ *On vehicles with air suspension, the running gear is set to normal air spring level with this programme.*
- Continue to follow the instructions on the display of the vehicle diagnostic tester.



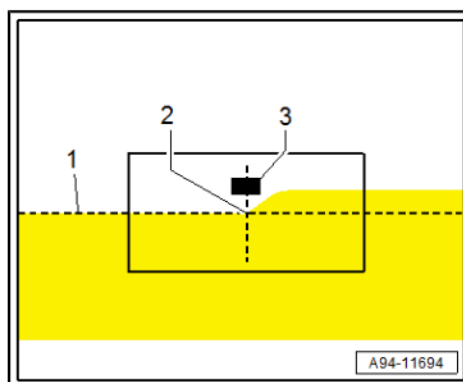
- You will be instructed to perform headlight adjustment while running through the programme.

#### Headlight adjustment

- Headlight adjustment unit must be centrally aligned with uppermost LED lens -1-.



- The horizontal light-dark border should coincide with the setting line -1- of the test surface on the headlight adjustment unit.
- The break-away point -2- between the horizontal section of the light-dark border on the left and the rising section on the right should coincide with the vertical line running through the central point -3-. The bright spot in the centre of the beam should be to the right of the vertical line.



#### Note

- ♦ To make it easier to find break-away point -2-, cover and uncover left half of headlight (as seen in direction of travel) a few times. Then check dipped beam again.
- ♦ If dipped beams have been adjusted correctly the centre point of the main beam should lie on central point -3-.

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- If fitted, lever off cap for height adjuster screw.
- Before adjusting height of headlight, use adjuster screw -1- to position light-dark border above setting line.
- Then adjust light-dark border to setting line from above.
- Turn adjuster screw -2- for lateral adjustment.



#### Note

The arrangement of the adjuster screws on the right headlight is symmetrically opposite.

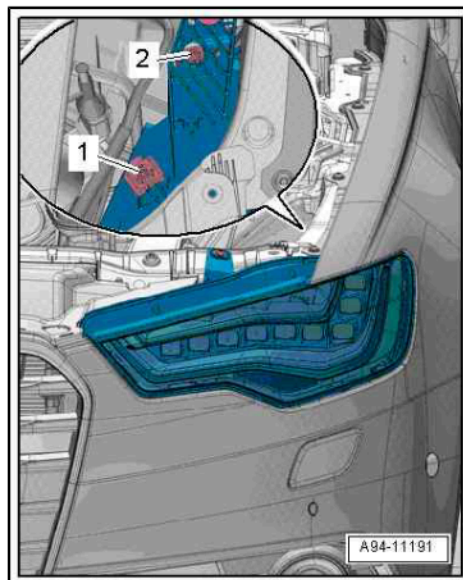
- After completing headlight adjustment, again follow the instructions on the display of the vehicle diagnostic tester to exit normal air spring level.



#### Note

If the programme is terminated too early the normal air spring level must be deactivated manually ⇒ Running gear, axles, steering; Rep. gr. 43 ; Electronic damping control .

- Unplug diagnostic connector.





### 1.3.6 Adjusting LED headlights - all vehicles from model year 2015 onwards

Requirements for checking and adjusting

- Tyre pressure OK
- Headlight lenses must be clean and dry.
- Headlight lenses must not be damaged.
- Reflectors and bulbs OK

Vehicles with steel springs:

- Vehicle correctly loaded.

Vehicle loading: driver's seat occupied, otherwise vehicle unloaded (unladen weight).

- One person or 75 kg.

The unladen weight is the weight of the vehicle ready for operation with full fuel tank including the weight of all equipment normally carried.

- Fuel tank: at least 90% full.
- Equipment: e.g. spare wheel, tools, jack, fire extinguisher etc.

If the fuel tank is not at least 90 % full, put in additional weight as follows:

- Read off fuel tank level at fuel gauge in instrument cluster, compare with the following table and, if necessary, place additional weight in luggage compartment.

Fuel gauge	Additional weight in kg		
	55 litre fuel tank	65 litre fuel tank	75 litre fuel tank
1/4	42	49	57
1/2	28	33	38
3/4	14	16	19
Full	0	0	0

Example: If fuel tank is half full, place an additional weight of 38 kg into luggage compartment.



Note

*Use canisters filled with water as additional weight (a 5 litre canister filled with water weighs approx. 5 kg).*

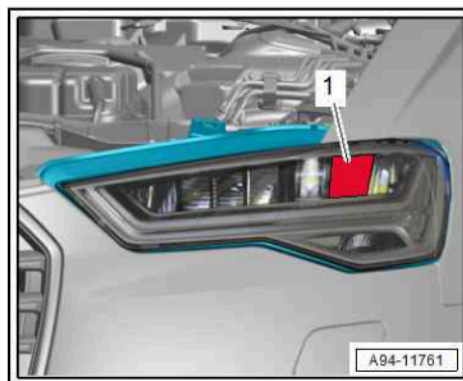
Vehicles with air suspension:

- Air reservoir full (if necessary start engine and run in neutral for approx. 2 minutes).





All vehicles (continued):



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- Release electromechanical parking brake to relieve any load on suspension.
- Vehicle and headlight adjustment unit must be on a level surface.
- Vehicle and headlight adjustment unit must be aligned correctly with each other. To achieve this, place headlight adjustment unit 100 mm in front of the vehicle (centrally) and align it with the front of the vehicle ⇒ Operating instructions for headlight adjustment unit .
- Move the headlight adjustment unit in front of the appropriate headlight and check alignment again.
- LED and matrix LED headlights: Headlight adjustment unit must be centrally aligned with marked reflector segment -1-.
- Dip setting must be set on headlight adjustment unit ⇒ Operating instructions for headlight adjustment unit .
- Dip setting -arrow- is marked on top edge of headlight -1- in “%” for ECE countries.
- Dip setting for USA is usually 0.7%.



#### Note

*The percentage value is for a range of 10 m. Example: Converting a dip setting of 1.0% = 10 cm.*

#### Preparations

- Turn light switch to “dipped beam” position – not to “Auto” position.
- Close all doors and the rear lid and keep them closed during the complete checking and adjusting procedure.

#### Procedure

- Connect ⇒ Vehicle diagnostic tester.
- Select **Diagnosis** mode and begin diagnosis.
- Select **Test plan** tab.
- Choose **Select own test** and select following options one after the other:

#### Vehicles without matrix beam

- ◆ Body
- ◆ Electrical system
- ◆ 01 - Self-diagnosis compatible systems
- ◆ 09 - Electronic central electrics J519
- ◆ 09 - Onboard supply control unit, functions
- ◆ 09 - Basic setting for headlights (Repair Group 94)

#### Vehicles with matrix beam

- ◆ Body
- ◆ Electrical system
- ◆ 01 - Self-diagnosis compatible systems
- ◆ 55 - Dynamic headlight range control (MxB) J431
- ◆ 55 - Headlight range control, functions



◆ 55 - Basic setting matrix beam (Repair Group 94)



Note

- ◆ *With this programme the headlights return to the basic setting.*
- ◆ *On vehicles with air suspension, the running gear is set to normal air spring level with this programme.*
- Continue to follow the instructions on the display of the vehicle diagnostic tester.
- You will be instructed to perform headlight adjustment while running through the programme.

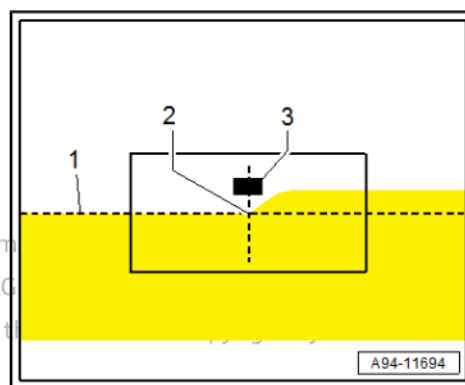
Headlight adjustment



Note

*The illustration and the following description refer to analogue headlight adjustment units. Please refer to the operating instructions for digital headlight adjustment units such as headlight adjustment unit - VAS 5209B- or headlight adjustment unit - VAS 621001- ➔ Operating instructions of headlight adjustment unit .*

- The horizontal light-dark border should coincide with the setting line -1- of the test surface on the headlight adjustment unit.
- The break-away point -2- between the horizontal section of the light-dark border on the left and the rising section on the right should coincide with the vertical line running through the central point -3-. The bright spot in the centre of the beam should be to the right of the vertical line.



Note

- ◆ *To make it easier to find the break-away point -2-, cover and uncover the left half of the headlight (as seen in direction of travel) a few times. Then check dipped beam again.*
- ◆ *If dipped beams have been adjusted correctly the centre point of the main beam should lie on central point -3-.*



- If fitted, lever off cap for height adjuster screw.
- Before adjusting height of headlight, use adjuster screw -2- to position light-dark border above setting line.
- Then adjust light-dark border to setting line from above.
- Turn adjuster screw -1- for lateral adjustment.



Note

*The arrangement of the adjuster screws on the right headlight is symmetrically opposite.*

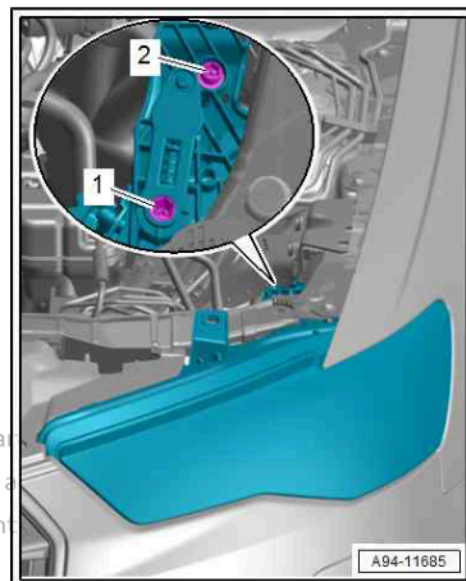
- After completing headlight adjustment, again follow the instructions on the display of the vehicle diagnostic tester to exit normal air spring level.



Note

*If the programme is terminated too early the normal air spring level must be deactivated manually ⇒ Running gear, axles, steering; Rep. gr. 43 ; Electronic damping control .*

- Unplug diagnostic connector.



### 1.3.7 Adjusting halogen headlights - USA vehicles

Requirements for checking and adjusting

- Tyre pressure OK.
- Headlight lenses must be clean and dry.
- Headlight lenses must not be damaged.
- Reflectors and bulbs OK.
- Vehicle correctly loaded.

Vehicle loading: driver's seat occupied, otherwise vehicle unloaded (unladen weight).

- One person or 75 kg.

The unladen weight is the weight of the vehicle ready for operation with full fuel tank including the weight of all equipment normally carried.

- Fuel tank: at least 90% full.
- Equipment: e.g. spare wheel, tools, jack, fire extinguisher etc.

If the fuel tank is not at least 90 % full, put in additional weight as follows:

- Read off fuel tank level at fuel gauge in instrument cluster, compare with the following table and, if necessary, place additional weight in luggage compartment.

Fuel gauge	Additional weight in kg	
	65 litre fuel tank	75 litre fuel tank
1/4	49	57
1/2	33	38
3/4	16	19
Full	0	0





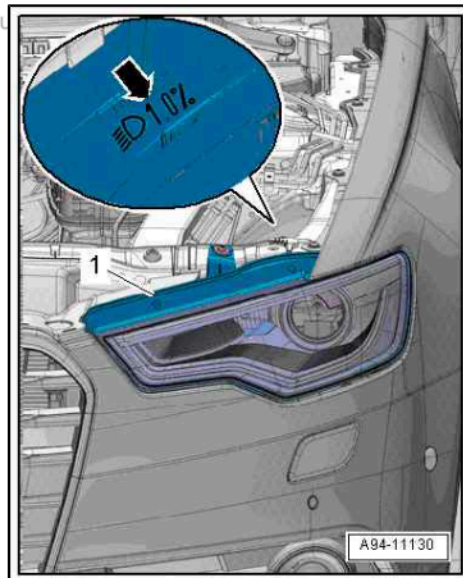
Fuel gauge	Additional weight in kg	
	65 litre fuel tank	75 litre fuel tank
Example: If fuel tank is half full, place an additional weight of 38 kg into luggage compartment.		



#### Note

*Use canisters filled with water as additional weight (a 5 litre canister filled with water weighs approx. 5 kg).*

- Release electromechanical parking brake to relieve any load on suspension.
- Vehicle and headlight adjustment unit must be on a level surface.
- Vehicle and headlight adjustment unit must be aligned correctly with each other. To achieve this, place headlight adjustment unit the specified distance in front of the vehicle (centrally) and align it with the front of the vehicle ⇒ Operating instructions for headlight adjustment unit .
- Move the headlight adjustment unit in front of the appropriate headlight and check alignment again.
- Dip setting must be set on headlight adjustment unit ⇒ Operating instructions for headlight adjustment unit .
- Dip setting -arrow- is marked on top edge of headlight -1- in “%” for ECE countries.
- Dip setting for USA is usually 0.7%.



#### Note

*The percentage value is for a range of 10 m. Example: Converting a dip setting of 1.0% = 10 cm.*

#### Preparations

- Turn light switch to “dipped beam” position – not to “Auto” position.
- Set knurled wheel for headlight range control to position “0”.

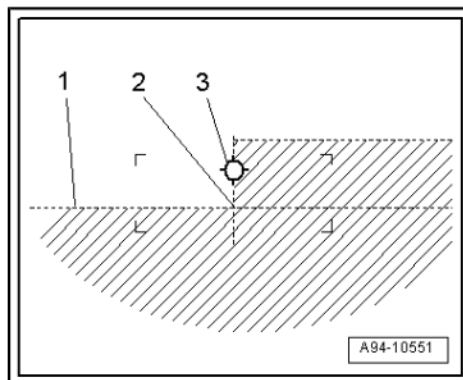
#### Headlight adjustment

- The horizontal light-dark border should coincide with the setting line -1- of the test surface on the headlight adjustment unit.
- The break-away point -2- between the horizontal section of the light-dark border on the left and the vertical section on the right should coincide with the vertical line running through the central point -3-. The bright spot in the centre of the beam should be to the right of the vertical line.



#### Note

- ◆ *To make it easier to find break-away point -2-, cover and uncover left half of headlight (as seen in direction of travel) a few times. Then check dipped beam again.*
- ◆ *If dipped beams have been adjusted correctly the centre point of the main beam should lie on central point -3-.*





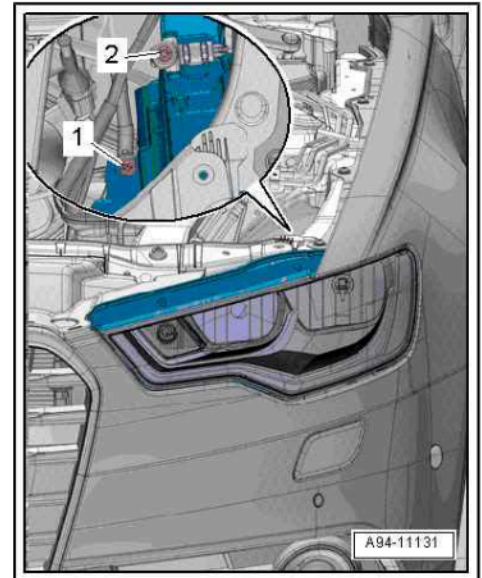


- Before adjusting height of headlight, use adjuster screw -1- to position light-dark border below setting line.
- Then adjust light-dark border to setting line from below.
- Turn adjuster screw -2- for lateral adjustment.



Note

*The arrangement of the adjuster screws on the right headlight is symmetrically opposite.*



### 1.3.8 Adjusting gas discharge headlights - USA vehicles up to model year 2014

Requirements for checking and adjusting

- Tyre pressure OK.
- Headlight lenses must be clean and dry.
- Headlight lenses must not be damaged.
- Reflectors and bulbs OK.

Vehicles with steel springs:

- Vehicle correctly loaded.

Vehicle loading: driver's seat occupied, otherwise vehicle unloaded (unladen weight).

- One person or 75 kg.

The unladen weight is the weight of the vehicle ready for operation with full fuel tank including the weight of all equipment normally carried.

- Fuel tank: at least 90% full.
- Equipment: e.g. spare wheel, tools, jack, fire extinguisher etc.

If the fuel tank is not at least 90 % full, put in additional weight as follows:

- Read off fuel tank level at fuel gauge in instrument cluster, compare with the following table and, if necessary, place additional weight in luggage compartment.

Fuel gauge	Additional weight in kg	
	65 litre fuel tank	75 litre fuel tank
1/4	49	57
1/2	33	38
3/4	16	19
Full	0	0

Example: If fuel tank is half full, place an additional weight of 38 kg into luggage compartment.



#### Note

*Use canisters filled with water as additional weight (a 5 litre canister filled with water weighs approx. 5 kg).*

Vehicles with air suspension:

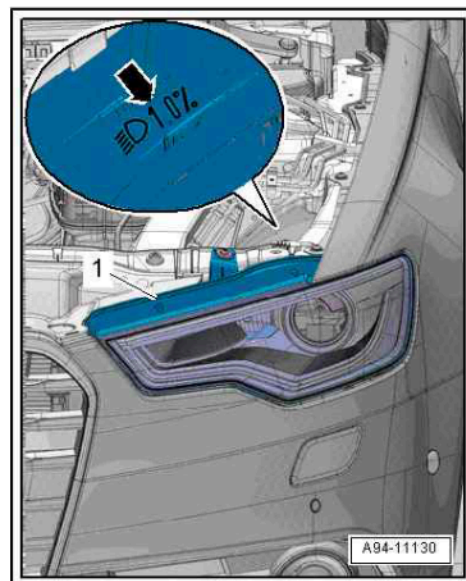
- Air reservoir full, if necessary start engine and allow to run at idling speed for approx. 2 minutes.

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All vehicles (continued):

- Release electromechanical parking brake to relieve any load on suspension.
- Vehicle and headlight adjustment unit must be on a level surface.
- Vehicle and headlight adjustment unit must be aligned correctly with each other. To achieve this, place headlight adjustment unit the specified distance in front of the vehicle (centrally) and align it with the front of the vehicle ⇒ Operating instructions for headlight adjustment unit .
- Move the headlight adjustment unit in front of the appropriate headlight and check alignment again.
- Dip setting must be set on headlight adjustment unit ⇒ Operating instructions for headlight adjustment unit .
- Dip setting -arrow- is marked on top edge of headlight -1- in “%” for ECE countries.
- Dip setting for USA is usually 0.7%.



Note

*The percentage value is for a range of 10 m. Example: Converting a dip setting of 1.0% = 10 cm.*

Preparations

- Turn light switch to “dipped beam” position – not to “Auto” position.
- Close all doors and the rear lid and keep them closed during the complete checking and adjusting procedure.

Procedure

- Connect ⇒ Vehicle diagnostic tester.

– Select **Diagnosis** mode and begin diagnosis.

- Select **Test plan** tab.

- Choose **Select own test** and select following options one after the other:

- ◆ Body
- ◆ Electrical system
- ◆ 01 - Self-diagnosis compatible systems
- ◆ 55 - Dynamic headlight range control - J431/J745
- ◆ 55 - Headlight range control, functions
- ◆ 55 - Basic setting



Note

- ◆ *With this programme the headlights return to the basic setting.*
- ◆ *On vehicles with air suspension, the running gear is set to normal air spring level with this programme.*
- Continue to follow the instructions on the display of the vehicle diagnostic tester.

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- You will be instructed to perform headlight adjustment while running through the programme.

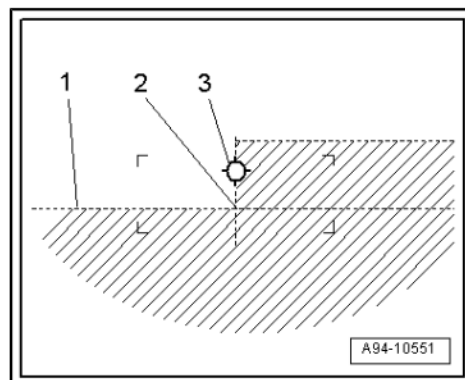
#### Headlight adjustment

- The horizontal light-dark border should coincide with the setting line -1- of the test surface on the headlight adjustment unit.
- The break-away point -2- between the horizontal section of the light-dark border on the left and the vertical section on the right should coincide with the vertical line running through the central point -3-. The bright spot in the centre of the beam should be to the right of the vertical line.



#### Note

- ◆ To make it easier to find break-away point -2-, cover and uncover left half of headlight (as seen in direction of travel) a few times. Then check dipped beam again.
- ◆ If dipped beams have been adjusted correctly the centre point of the main beam should lie on central point -3-.



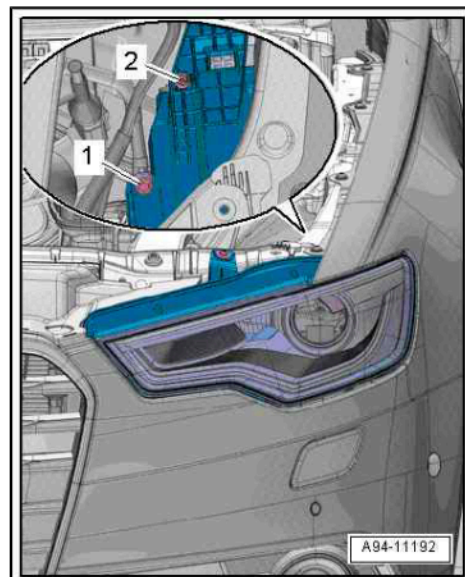
- If fitted, lever off cap for height adjuster screw.
- Before adjusting height of headlight, use adjuster screw -1- to position light-dark border above setting line.
- Then adjust light-dark border to setting line from above.
- Turn adjuster screw -2- for lateral adjustment.



#### Note

*The arrangement of the adjuster screws on the right headlight is symmetrically opposite.*

- After completing headlight adjustment, again follow the instructions on the display of the vehicle diagnostic tester to exit normal air spring level.



#### Note

*If the programme is terminated too early the normal air spring level must be deactivated manually ⇒ Running gear, axles, steering; Rep. gr. 43 ; Electronic damping control .*

- Unplug diagnostic connector.

### 1.3.9 Adjusting LED headlights - USA vehicles up to model year 2014

#### Requirements for checking and adjusting

- Tyre pressure OK.
- Headlight lenses must be clean and dry.
- Headlight lenses must not be damaged.
- Reflectors and bulbs OK.

#### Vehicles with steel springs:

- Vehicle correctly loaded.



Vehicle loading: driver's seat occupied, otherwise vehicle unloaded (unladen weight).

- One person or 75 kg.

The unladen weight is the weight of the vehicle ready for operation with full fuel tank including the weight of all equipment normally carried.

- Fuel tank: at least 90% full.
- Equipment: e.g. spare wheel, tools, jack, fire extinguisher etc.

If the fuel tank is not at least 90 % full, put in additional weight as follows:

- Read off fuel tank level at fuel gauge in instrument cluster, compare with the following table and, if necessary, place additional weight in luggage compartment.

Fuel gauge	Additional weight in kg	
	65 litre fuel tank	75 litre fuel tank
1/4	49	57
1/2	33	38
3/4	16	19
Full	0	0
Example: If fuel tank is half full, place an additional weight of 38 kg into luggage compartment.		



#### Note

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*Use canisters filled with water as additional weight (a 5 litre canister filled with water weighs approx. 5 kg).* AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Vehicles with air suspension:

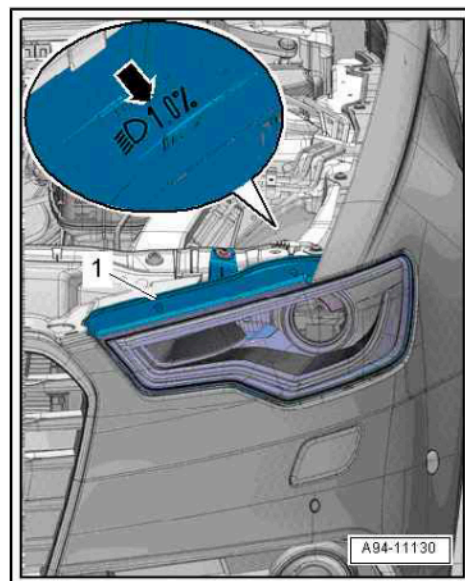
- Air reservoir full, if necessary start engine and allow to run at idling speed for approx. 2 minutes.





All vehicles (continued):

- Release electromechanical parking brake to relieve any load on suspension.
- Vehicle and headlight adjustment unit must be on a level surface.
- Vehicle and headlight adjustment unit must be aligned correctly with each other. To achieve this, place headlight adjustment unit the specified distance in front of the vehicle (centrally) and align it with the front of the vehicle ⇒ Operating instructions for headlight adjustment unit .
- Move the headlight adjustment unit in front of the appropriate headlight and check alignment again.
- Dip setting must be set on headlight adjustment unit ⇒ Operating instructions for headlight adjustment unit .
- Dip setting -arrow- is marked on top edge of headlight -1- in “%” for ECE countries.
- Dip setting for USA is usually 0.7%.



Note

*The percentage value is for a range of 10 m. Example: Converting a dip setting of 1.0% = 10 cm.*

#### Preparations

- Vehicle must be on a level surface.
- Turn light switch to “dipped beam” position – not to “Auto” position.
- Close all doors and the rear lid and keep them closed during the complete checking and adjusting procedure.

**Procedure** protected by copyright. Copying for private or commercial purposes, in part or in whole, is not

- Connect ⇒ **Vehicle diagnostic tester**.
- Select **Diagnosis** mode and begin diagnosis.
- Select **Test plan** tab.
- Choose **Select own test** and select following options one after the other:
  - ◆ Body
  - ◆ Electrical system
  - ◆ 01 - Self-diagnosis compatible systems
  - ◆ 55 - Dynamic headlight range control - J431/J745
  - ◆ 55 - Headlight range control, functions
  - ◆ 55 - Basic setting



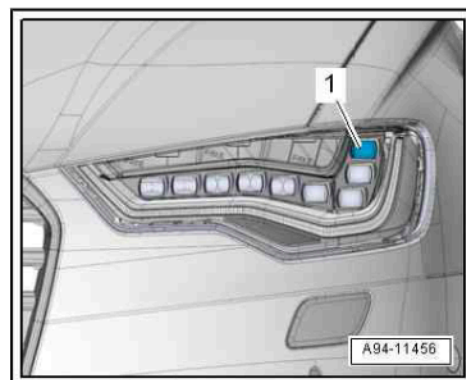
Note

- ◆ *With this programme the headlights return to the basic setting.*
- ◆ *On vehicles with air suspension, the running gear is set to normal air spring level with this programme.*
- Continue to follow the instructions on the display of the vehicle diagnostic tester.

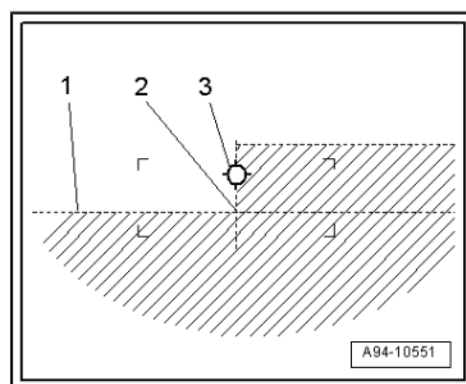


- You will be instructed to perform headlight adjustment while running through the programme.

#### Headlight adjustment



- Headlight adjustment unit must be centrally aligned with uppermost LED lens -1-.
- The horizontal light-dark border should coincide with the setting line -1- of the test surface on the headlight adjustment unit.
- The break-away point -2- between the horizontal section of the light-dark border on the left and the vertical section on the right should coincide with the vertical line running through the central point -3-. The bright spot in the centre of the beam should be to the right of the vertical line.



#### Note

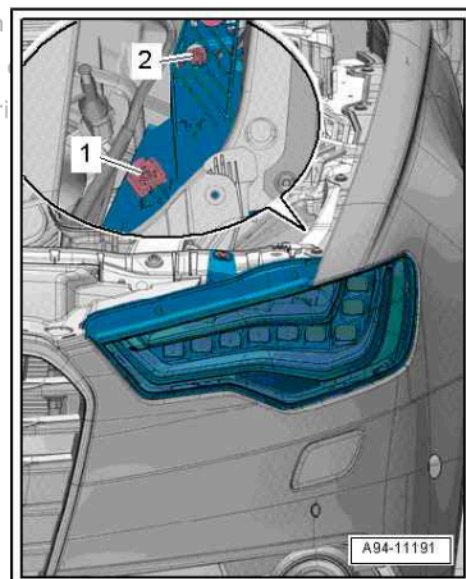
- ◆ To make it easier to find break-away point -2-, cover and uncover left half of headlight (as seen in direction of travel) a few times. Then check dipped beam again.
- ◆ If dipped beams have been adjusted correctly the centre point of the main beam should lie on central point -3-.

- Before adjusting height of headlight, use adjuster screw -1- to position light-dark border above setting line.
- Then adjust light-dark border to setting line from above.
- Turn adjuster screw -2- for lateral adjustment.



#### Note

The arrangement of the adjuster screws on the right headlight is symmetrically opposite.



## 1.4 Calibrating headlights

- Calibration only needs to be performed for matrix LED headlights.



⇒ "1.4.1 Calibrating matrix LED headlights with headlight adjustment unit VAS 5209B", page 174

⇒ "1.4.2 Calibrating matrix LED headlights with headlight adjustment unit VAS 621001", page 178

## 1.4.1 Calibrating matrix LED headlights with headlight adjustment unit - VAS 5209B-



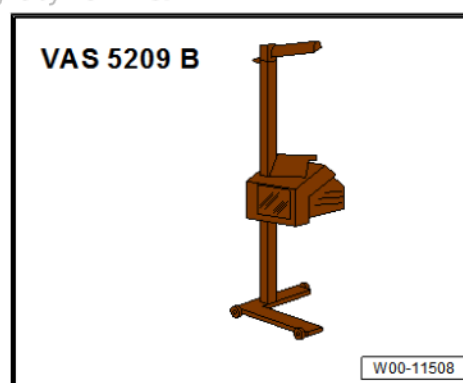
### Note

◆ The matrix LED headlights are calibrated with the vehicle diagnostic tester ⇒ Vehicle diagnostic tester.

◆ The dipped headlights are adjusted first in this procedure. Afterwards the matrix main beam function is calibrated.

### Special tools and workshop equipment required

◆ Headlight adjustment unit - VAS 5209B-



### Note

The software version of the headlight adjustment unit - VAS 5209B- must be V 0.80 or above to calibrate the matrix main beam function.

The matrix headlights must be calibrated:

- If the position of the headlights has been adjusted (i.e. if they have been removed/installed or if securing bolts have been loosened).
- If the output module for left matrix headlight - A44- / output module for right matrix headlight - A45- has been renewed.
- If the headlight range control unit - J431- has been renewed.
- If there is an entry in the event memory indicating that the matrix headlights are not calibrated.

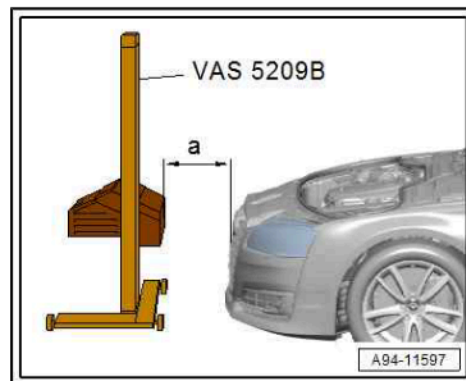
Requirements:

- Observe requirements for checking and adjusting  
⇒ [page 148](#) .

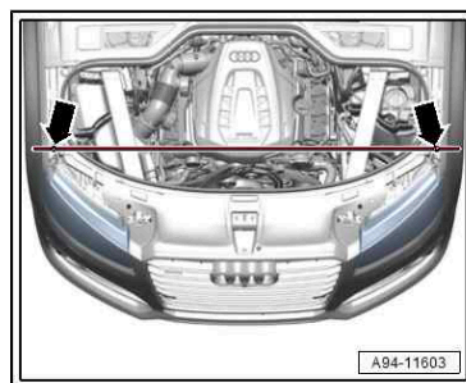


## Procedure

- Align -VAS 5209B- with centre of vehicle at a distance of -a- = 100 mm ➔ Operating instructions of -VAS 5209B- .



- Ensure that -VAS 5209B- is parallel with transverse axis of vehicle. To do so, adjust laser beam of -VAS 5209B- so it hits securing bolts for wing at front left and front right -arrows-.
- Move -VAS 5209B- in front of left headlight and perform parallel check again.
- To avoid dazzling other road users, ensure that the headlight adjustment unit is aligned properly.



## Performing calibration

➔ Vehicle diagnostic tester must be connected.

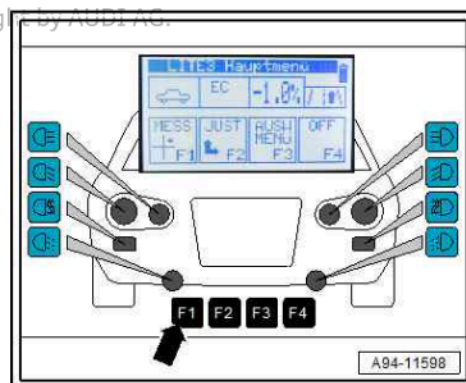
- Select **Diagnosis** mode and begin diagnosis.
- Select **Test plan** tab.
- Choose **Select own test** and select following options one after the other:
  - ◆ Body
  - ◆ Electrical system
  - ◆ 01 - Self-diagnosis compatible systems
  - ◆ 55 - Dynamic headlight range control (MxB) -J431
  - ◆ 55 - Headlight range control, functions
  - ◆ 55 - Basic setting matrix beam (Repair Group 94)

Further instructions are given by ➔ Vehicle diagnostic tester during calibration procedure. The dipped headlights must be adjusted first in this procedure ➔ [page 161](#) .

During the program, you will be prompted to determine/read off the angle of the inner edge of the segment in the left headlight in the headlight adjustment unit and to enter this into the tester.

Align light collector lens centrally with reference segment of headlight.

- Press the "F1" button -arrow- in the main menu of the -VAS 5209B- to measure the angle.

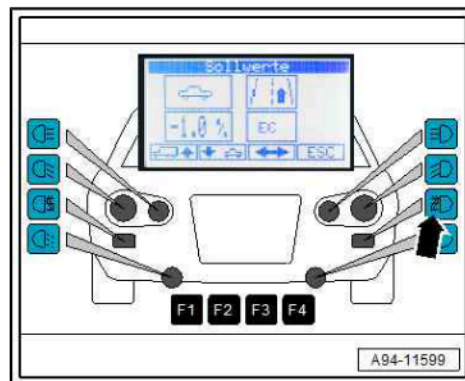






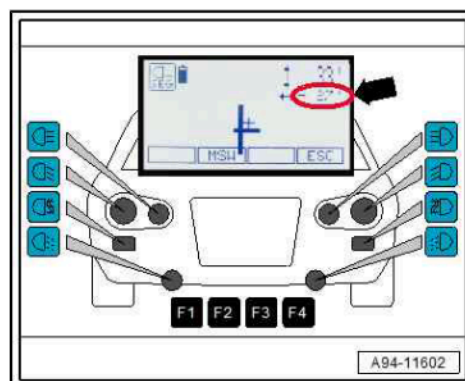
Indicated on display:

- Press and hold left fog light button -arrow- for at least 3 seconds.



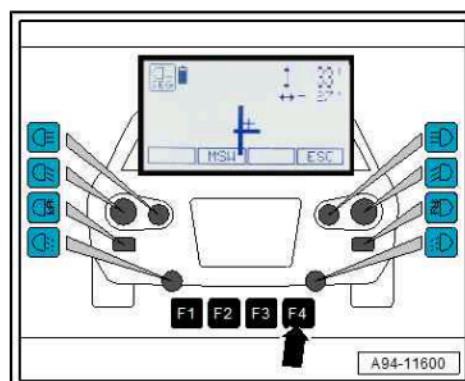
Indicated on display:

- Angles of inner reference segment edge are displayed.
- Enter angle -arrow- of inner edge of reference segment in vehicle diagnostic tester . If necessary, note "+/-" sign.

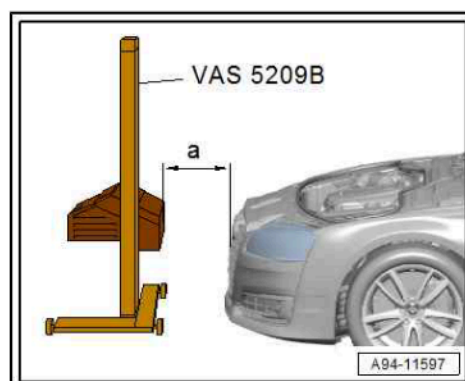


- Press "F4" button -arrow- on -VAS 5209B- .

During the program, you will be prompted to determine/read off the angle of the inner edge of the segment in the right headlight in the headlight adjustment unit and to enter this into the tester.



- Align -VAS 5209 B- with centre of vehicle at a distance of -a- = 100 mm ⇒ Operating instructions of -VAS 5209B- .



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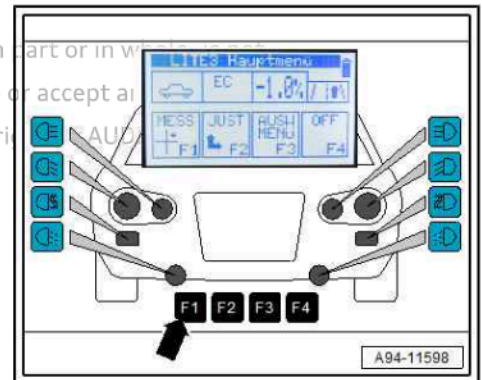
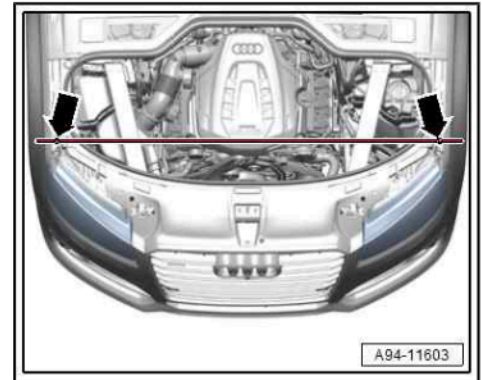


- Ensure that -VAS 5209 B- is parallel with transverse axis of vehicle. To do so, adjust laser beam of -VAS 5209 B- so it hits securing bolts for wing at front left and front right -arrows-.
- Move -VAS 5209 B- in front of right headlight and perform parallel check again.
- Align light collector lens centrally with reference segment of headlight.



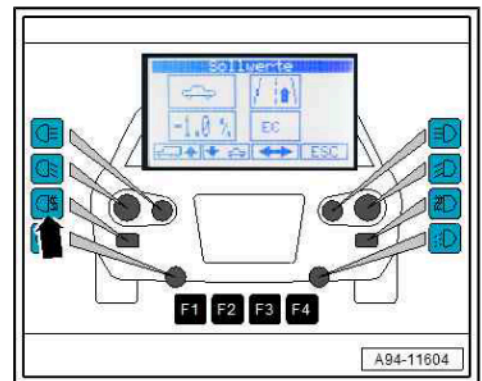
- Press the "F1" button -arrow- in the main menu of the -VAS 5209 B- to measure the angle.

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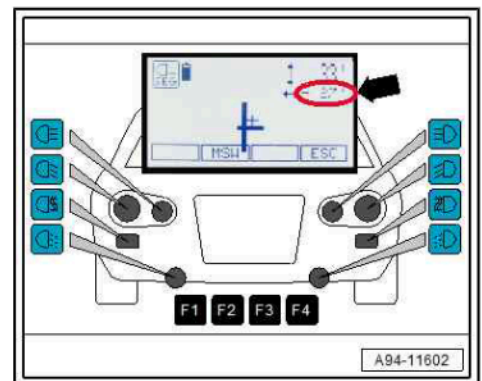
Indicated on display:

- Press and hold right fog light button -arrow- for at least 3 seconds.



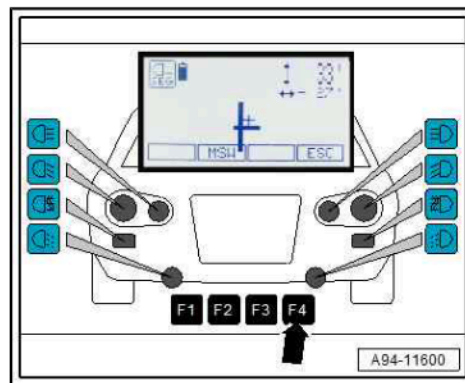
Indicated on display:

- Angles of inner reference segment edge are displayed.
- Enter angle -arrow- of inner edge of reference segment in vehicle diagnostic tester. If necessary, note "+/-" sign.





- Press “F4” button -arrow- on -VAS 5209 B- .
- After completing calibration, read out event memory and deal with any faults that are present.



## 1.4.2 Calibrating matrix LED headlights with headlight adjustment unit - VAS 621001-

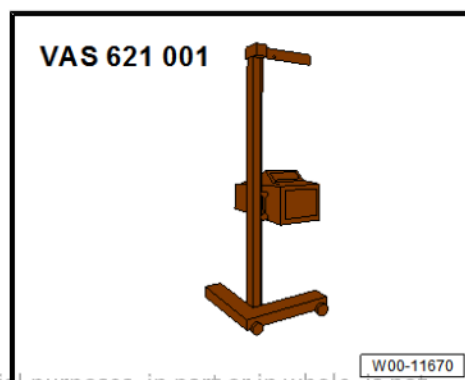


### Note

- ♦ *The matrix LED headlights are calibrated with the vehicle diagnostic tester ⇒ Vehicle diagnostic tester.*
- ♦ *The dipped headlights are adjusted first in this procedure. Afterwards the matrix main beam function is calibrated.*

### Special tools and workshop equipment required

- ♦ Headlight adjustment unit - VAS 621001- with software version 1.04.004 and above



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### The matrix headlights must be calibrated:

- If the position of the headlights has been adjusted (i.e. if they have been removed/installed or if securing bolts have been loosened).
- If the output module for left matrix headlight - A44- / output module for right matrix headlight - A45- has been renewed.
- If the headlight range control unit - J431- has been renewed.
- If there is an entry in the event memory indicating that the matrix headlights are not calibrated.

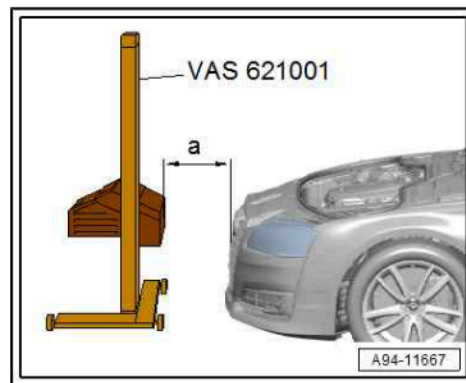
### Requirements:

- Observe requirements for checking and adjusting  
⇒ [page 148](#) .

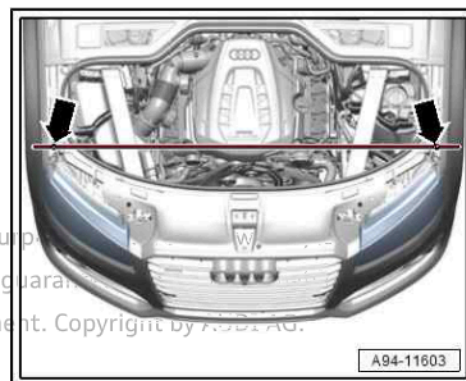


## Procedure

- Align -VAS 621001- with centre of vehicle at a distance of -a- = 100 mm ➔ Operating instructions of -VAS 621001- .



- Ensure that -VAS 621001- is parallel with transverse axis of vehicle. To do so, adjust laser beam of -VAS 621001- so it hits securing bolts for wing at front left and front right -arrows-.
- Move -VAS 621001- in front of left headlight and perform parallel check again.
- To avoid dazzling other road users, ensure that the headlight adjustment unit is aligned properly.



## Performing calibration

➔ Vehicle diagnostic tester must be connected.

- Select **Diagnosis** mode and begin diagnosis.
- Select **Test plan** tab.
- Choose **Select own test** and select following options one after the other:
  - ◆ Body
  - ◆ Electrical system
  - ◆ 01 - Self-diagnosis compatible systems
  - ◆ 55 - Dynamic headlight range control (MxB) -J431
  - ◆ 55 - Headlight range control, functions
  - ◆ 55 - Basic setting matrix beam (Repair Group 94)

Further instructions are given by ➔ Vehicle diagnostic tester during calibration procedure. The dipped headlights must be adjusted first in this procedure ➔ [page 161](#) .

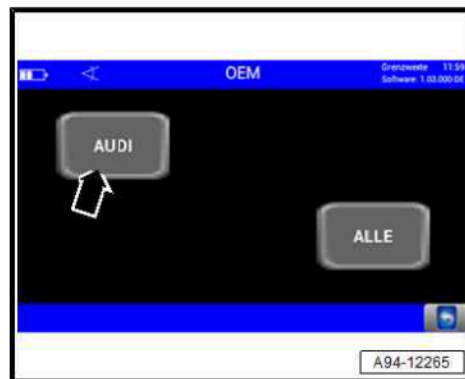
During the program, you will be prompted to determine/read off the angle of the inner edge of the segment in the left headlight in the headlight adjustment unit and to enter this into the tester.

- Align light collector lens centrally with reference segment of headlight.
- Press "OEM" button -arrow- in main menu of -VAS 621001- to start measurement procedure.



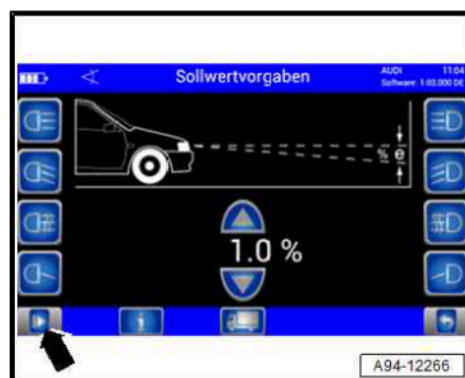


- Select "Audi" -arrow-.



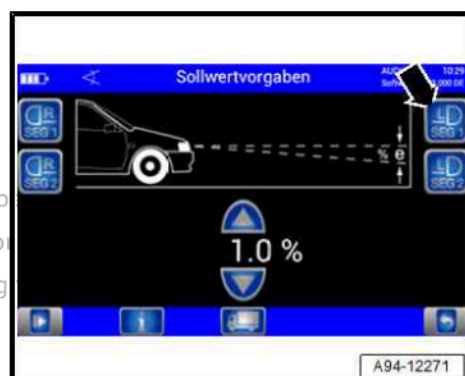
Indicated on display:

- Press button -arrow- and wait for a moment until light measurement is active.



Indicated on display:

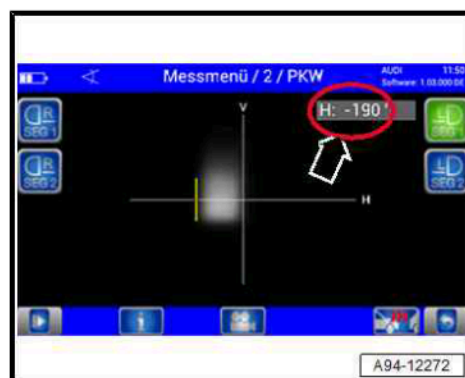
- Press button -arrow-.
- Wait for a moment until light measurement has been performed.



Indicated on display:

- Angle of inner reference segment edge is displayed.
- Enter angle -arrow- of inner edge of reference segment in vehicle diagnostic tester . If necessary, note "+/-" sign.

During the program, you will be prompted to determine/read off the angle of the inner edge of the segment in the right headlight in the headlight adjustment unit and to enter this into the tester.

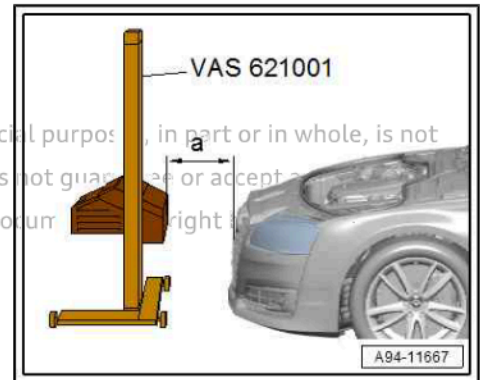




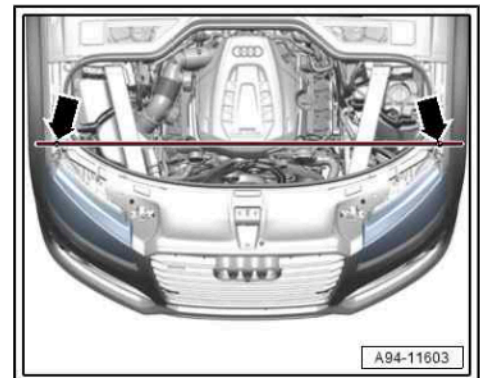


- Align -VAS 621001- with centre of vehicle at a distance of -a- = 100 mm ➤ Operating instructions of -VAS 621001- .

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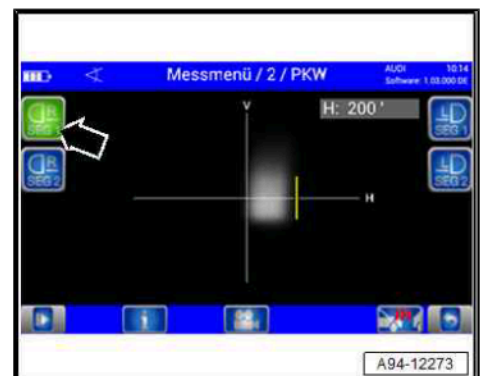


- Ensure that -VAS 621001- is parallel with transverse axis of vehicle. To do so, adjust laser beam of -VAS 621001- so it hits securing bolts for wing at front left and front right -arrows-.
- Move -VAS 621001- in front of right headlight and perform parallel check again.
- Align light collector lens centrally with reference segment of headlight.



Indicated on display:

- Press button -arrow-.
- Wait for a moment until light measurement has been performed.



Indicated on display:

- Angle of inner reference segment edge is displayed.
- Enter angle -arrow- of inner edge of reference segment in vehicle diagnostic tester . If necessary, note "+/-" sign.
- After completing calibration, read out event memory and deal with any faults that are present.







## 1.5 Removing and installing front turn signal bulb -M5- / -M7-

⇒ "1.5.1 Removing and installing front turn signal bulb M5 / M7 - halogen headlights", page 182

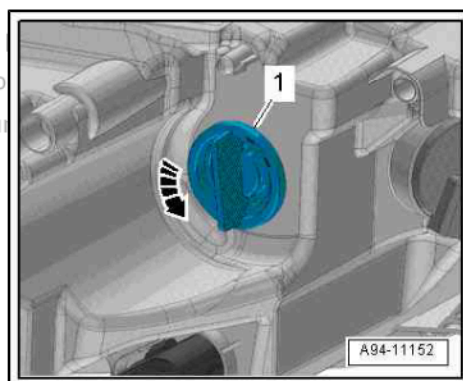
⇒ "1.5.2 Removing and installing front turn signal bulb M5 / M7 - gas discharge headlights up to model year 2014", page 182

⇒ "1.5.3 Removing and installing front turn signal bulb M5 / M7 - gas discharge headlights, vehicles from model year 2015 onwards", page 183

### 1.5.1 Removing and installing front turn signal bulb -M5- / -M7- - halogen headlights

#### Removing

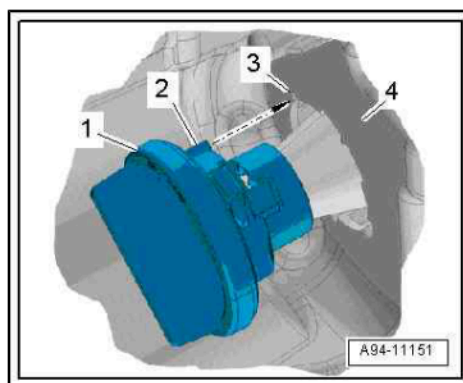
- Remove lock carrier cover ⇒ General body repairs, exterior; Rep. gr. 63; Bumper (front); Removing and installing attachments .
- Turn bulb holder -1- anti-clockwise -arrow- and pull it out of housing.
- Screw bulb out of bulb holder.



#### Installing

Installation is carried out in reverse order; note the following:

- Insert new bulb in bulb holder, taking care not to touch glass part of bulb with bare hands.
- Bulb holder -1- can only be fitted in one position into headlight housing -4-.
- Projection -2- on bulb holder must engage in guide -3- on headlight housing -arrow-.



### 1.5.2 Removing and installing front turn signal bulb -M5- / -M7- - gas discharge headlights up to model year 2014



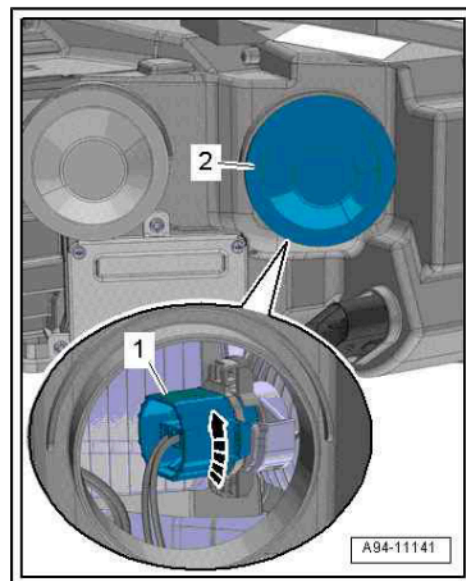
#### WARNING

Observe safety precautions when working on vehicles with high-voltage system ⇒ [page 1](#) .



## Removing

- Remove lock carrier cover ⇒ General body repairs, exterior; Rep. gr. 63 ; Bumper (front); Removing and installing attachments .
- Right-side: Remove air cleaner housing ⇒ Rep. gr. 23 ; Air cleaner; Removing and installing air cleaner housing or ⇒ Rep. gr. 24 ; Air cleaner; Removing and installing air cleaner housing .
- Left-side: If fitted, remove resonator with air cleaner ⇒ Rep. gr. 26 ; Secondary air system; Removing and installing secondary air pump motor - V101- .
- Pull housing cover -2- off headlight housing.
- Turn bulb holder -1- in direction of -arrow- and pull out.

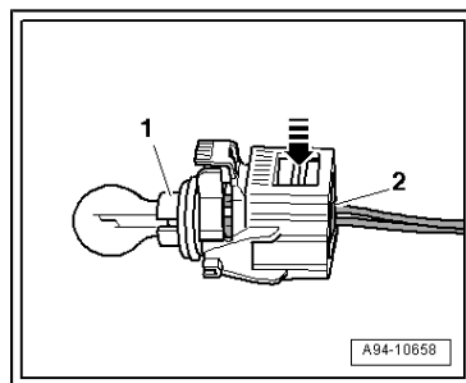


- Press down release mechanism -arrow- and pull electrical connector -2- off bulb -1-.

## Installing

Installation is carried out in reverse order; note the following:

- Fit new bulb; do not touch glass part of bulb with bare hands.
- Close housing cover.



## 1.5.3 Removing and installing front turn signal bulb -M5- / -M7- - gas discharge headlights, vehicles from model year 2015 onwards



### WARNING

*Observe safety precautions when working on vehicles with high-voltage system ⇒ [page 1](#) .*

## Removing

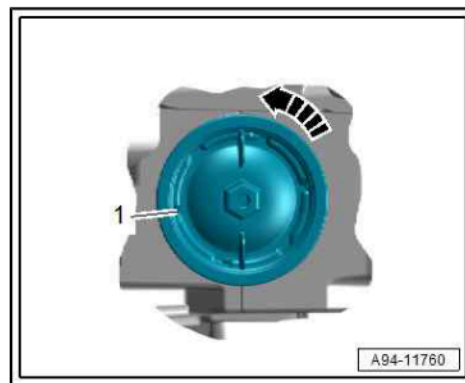
- Right-side: Remove air cleaner housing ⇒ Rep. gr. 23 ; Air cleaner; Removing and installing air cleaner housing or ⇒ Rep. gr. 24 ; Air cleaner; Removing and installing air cleaner housing .



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- Turn housing cover -1- anti-clockwise -arrow- and detach from headlight housing.

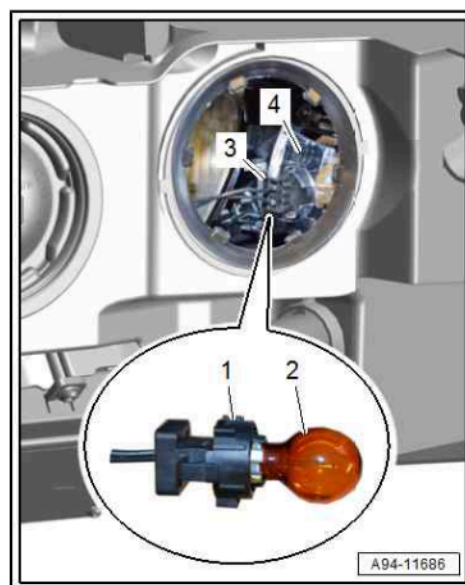


- Pull bulb holder -3- out of housing -4-.
- Pull bulb -2- out of bulb holder -1-.

#### Installing

Installation is carried out in reverse order; note the following:

- Fit new bulb; do not touch glass part of bulb with bare hands.
- Close housing cover (turn clockwise).



## 1.6 Removing and installing side light bulb - M1- / -M3-



#### WARNING

Observe safety precautions when working on vehicles with high-voltage system ➔ [page 1](#).



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## Removing

- Right-side: Remove air cleaner housing ⇒ Rep. gr. 23 ; Air cleaner; Removing and installing air cleaner housing or ⇒ Rep. gr. 24 ; Air cleaner; Removing and installing air cleaner housing .
- Pull housing cover -1- off headlight housing.
- Pull bulb holder -2- out of housing.
- Pull bulb out of bulb holder.

## Installing

Installation is carried out in reverse order; note the following:

- Insert new bulb in bulb holder, taking care not to touch glass part of bulb with bare hands.
- Close housing cover.



## 1.7 Removing and installing headlight dipped beam bulb

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## Removing

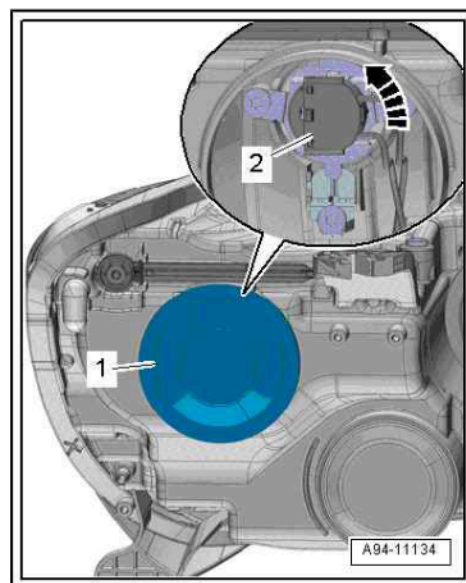
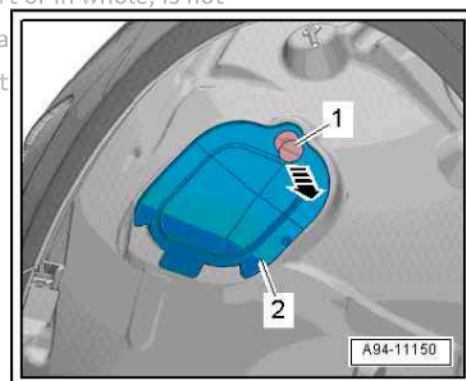
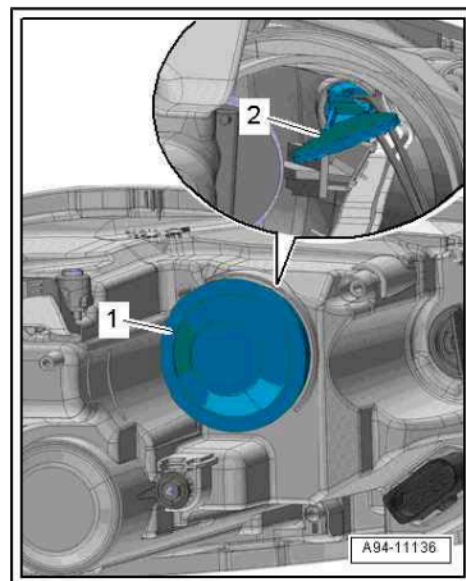
- Loosen fastener -1- and disengage cap -2- from wheel housing liner (front section) -arrow-.



## Note

*Depending on the version, a bolt may be fitted instead of the fastener.*

- Pull housing cover -1- off headlight housing.
- Turn bulb holder -2- in direction of -arrow- and pull out.





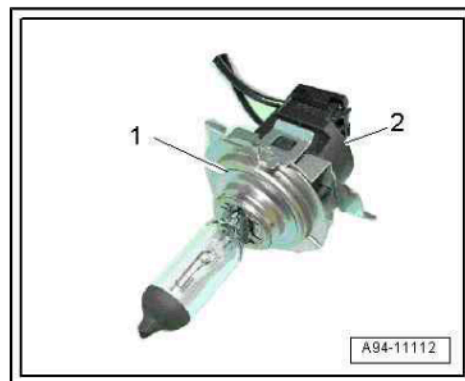


- Pull bulb -1- out of bulb holder -2-.

#### Installing

Installation is carried out in reverse order; note the following:

- Insert new bulb in bulb holder, taking care not to touch glass part of bulb with bare hands.
- Close housing cover.
- Reengage cap and secure with fastener.



## 1.8 Removing and installing daytime running light bulb -L174- / -L175- , headlight main beam bulb -M30- / -M32- - halogen headlights



### WARNING

Observe safety precautions when working on vehicles with high-voltage system ➔ [page 1](#) .

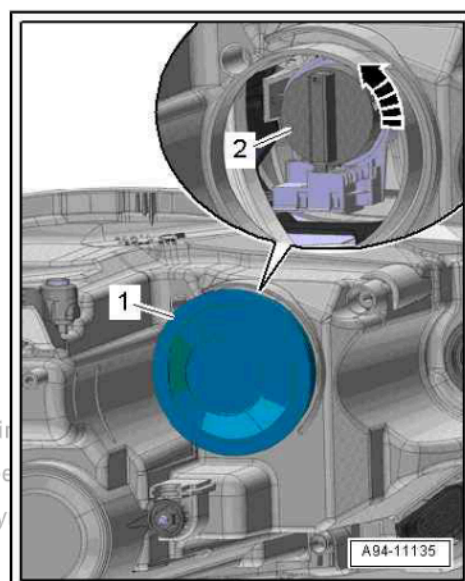
#### Removing

- Right-side: Remove air cleaner housing ➔ Rep. gr. 23 ; Air cleaner; Removing and installing air cleaner housing or ➔ Rep. gr. 24 ; Air cleaner; Removing and installing air cleaner housing .
- Pull housing cover -1- off headlight housing.
- Turn bulb -2- anti-clockwise -arrow- and pull it out of housing.

#### Installing

Installation is carried out in reverse order; note the following:

- Fit new bulb in housing; do not touch glass part of bulb with bare hands.
  - Close housing cover.
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## 1.9 Removing and installing gas discharge bulb -L13- / -L14-

⇒ "1.9.1 Removing and installing gas discharge bulb L13 / L14 - vehicles up to model year 2014", page 187

⇒ "1.9.2 Removing and installing gas discharge bulb L13 / L14 - vehicles from model year 2015 onwards", page 188

### 1.9.1 Removing and installing gas discharge bulb -L13- / -L14- - vehicles up to model year 2014



#### WARNING

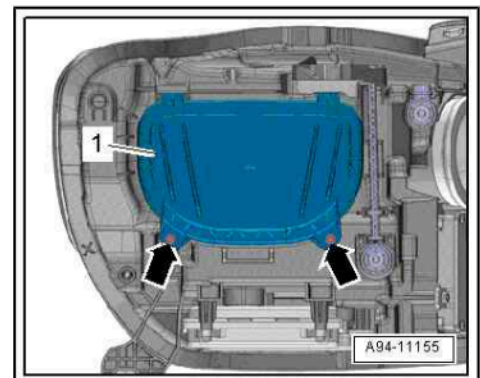
*High voltage! Danger to life! Observe environmental requirements.*

◆ *Safety precautions when handling gas discharge bulbs*

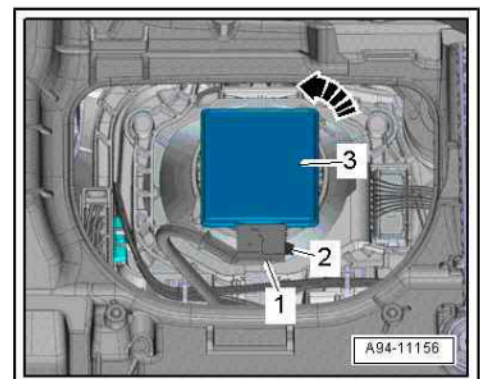
⇒ [page 2](#).

#### Removing

- Remove front wheel housing liner ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (front) .
- Remove bolts -arrows-.
- Detach housing cover -1-.

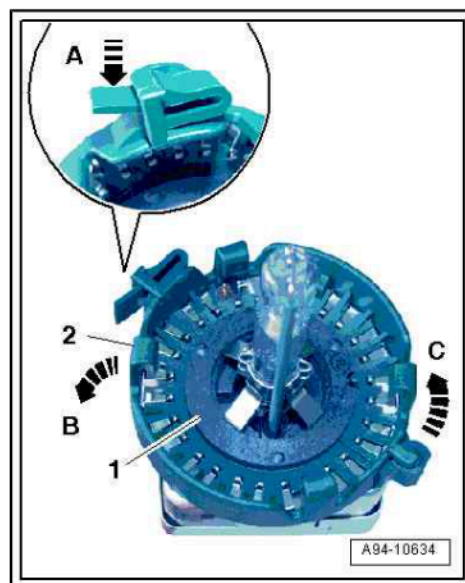


- Press retaining tab -2- to unplug electrical connector -1-.
- Turn gas discharge bulb -3- anti-clockwise -arrow- and take out of housing.





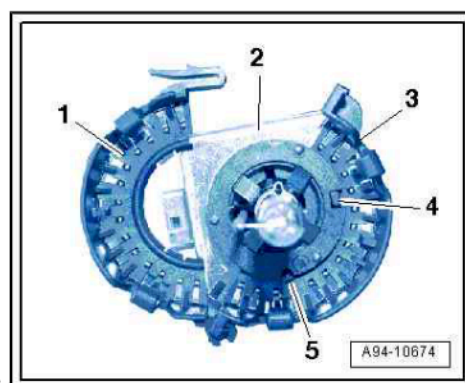
- Release retaining clip -arrow A- and open adapter ring -2- -arrow B-.
- Disengage adapter ring at gas discharge bulb -1- -arrow C-.



### Installing

Installation is carried out in reverse order; note the following:

- Position one half of adapter ring -3- with locating element at gas discharge bulb -2-.
- Locating elements -4- and -5- must be inserted in mountings.
- Close second half -1- of adapter ring until it engages audibly.
- Plug connector in again and insert new gas discharge bulb in housing; do not touch glass part of bulb with bare hands.
- Installation position: The electrical connection faces downwards.



- Close housing cover and tighten bolts.

### Tightening torques

⇒ ["1.1.3 Exploded view - headlights, gas discharge headlight up to model year 2014", page 133](#)

- Install front wheel housing liner ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (front) .

## 1.9.2 Removing and installing gas discharge bulb -L13- / -L14- - vehicles from model year 2015 onwards

On vehicles from model year 2015 onwards, the gas discharge bulb -L13- / -L14- is integrated in the gas discharge bulb control unit - J343- / -J344- .

- Removing and installing gas discharge bulb control unit - J343- / -J344- - vehicles from model year 2015 onwards  
⇒ [page 193](#)

## 1.10 Removing and installing LED module for daytime running light and side light - L176- / -L177-

The daytime running light and side light bulbs (LED lights) are integrated in the headlight housing. The LED lights cannot be renewed separately; the headlight must be renewed as a complete unit.



- Renew headlight housing ⇒ [page 143](#) .

## 1.11 Removing and installing cornering light bulb

⇒ [“1.11.1 Removing and installing cornering light bulb M51 / M52 - L148 / L149 - vehicles up to model year 2014”, page 189](#)

⇒ [“1.11.2 Removing and installing static cornering light M51 / M52 - vehicles from model year 2015 onwards”, page 190](#)

### 1.11.1 Removing and installing cornering light bulb -M51- / -M52- , -L148- / -L149- - vehicles up to model year 2014

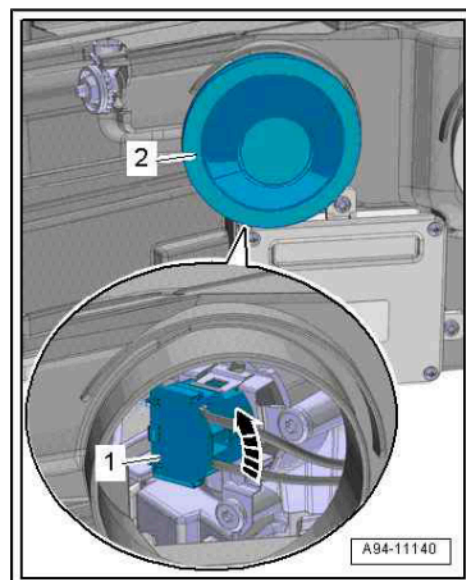


#### WARNING

*Observe safety precautions when working on vehicles with high-voltage system ⇒ [page 1](#) .*

#### Removing

- Right-side: Remove air cleaner housing ⇒ Rep. gr. 23 ; Air cleaner; Removing and installing air cleaner housing or ⇒ Rep. gr. 24 ; Air cleaner; Removing and installing air cleaner housing .
- Left-side: If fitted, remove resonator with air cleaner ⇒ Rep. gr. 26 ; Secondary air system; Removing and installing secondary air pump motor - V101- .
- Pull housing cover -2- off headlight housing.
- Turn bulb holder -1- in direction of -arrow- and pull out.

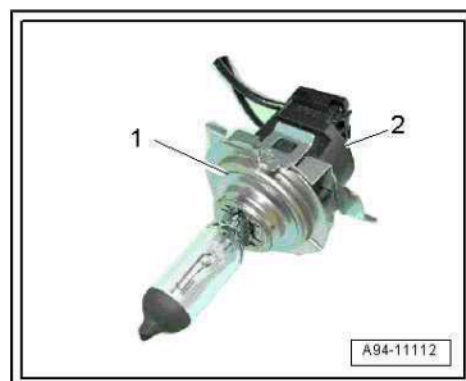


- Pull bulb -1- out of bulb holder -2-.

#### Installing

Installation is carried out in reverse order; note the following:

- Insert new bulb in bulb holder, taking care not to touch glass part of bulb with bare hands.
- Close housing cover.





### 1.11.2 Removing and installing static cornering light -M51- / -M52- - vehicles from model year 2015 onwards



#### WARNING

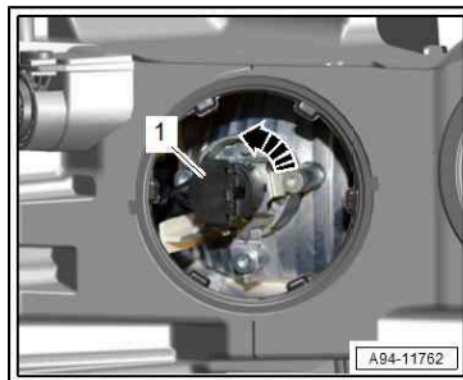
Observe safety precautions when working on vehicles with high-voltage system ➔ [page 1](#) .

#### Removing

- Right-side: Remove air cleaner housing ➔ Rep. gr. 23 ; Air cleaner; Removing and installing air cleaner housing or ➔ Rep. gr. 24 ; Air cleaner; Removing and installing air cleaner housing .
- Turn housing cover -1- anti-clockwise -arrow- and detach from headlight housing.



- Turn bulb holder -1- in direction of -arrow- and pull out.

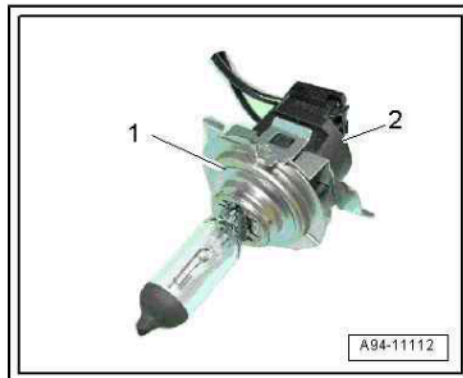


- Pull bulb -1- out of bulb holder -2-.

#### Installing

Installation is carried out in reverse order; note the following:

- Insert new bulb in bulb holder, taking care not to touch glass part of bulb with bare hands.
- Close housing cover (turn clockwise).







## 1.12 Removing and installing dip beam screen motor -V294- / -V295-

The dip beam screen motor is located in the headlight housing and cannot be renewed separately in the event of a fault.

- Renew headlight housing ⇒ [page 143](#) .

## 1.13 Removing and installing dynamic cornering light control motor -V318- / -V319-

The dynamic cornering light control motor is located in the headlight housing and cannot be renewed separately in the event of a fault.

- Renew headlight housing ⇒ [page 143](#) .

## 1.14 Removing and installing gas discharge bulb control unit -J343- / -J344-

⇒ [“1.14.1 Removing and installing gas discharge bulb control unit J343 / J344 - vehicles up to model year 2014”, page 191](#)

⇒ [“1.14.2 Removing and installing gas discharge bulb control unit J343 / J344 - vehicles from model year 2015 onwards”, page 193](#)

### 1.14.1 Removing and installing gas discharge bulb control unit -J343- / -J344- - vehicles up to model year 2014



#### WARNING

*High voltage! Danger to life!*

- ◆ *Ensure that any part of the gas discharge headlights marked with yellow high-voltage warning symbols are de-energised when you are working on them.*
- ◆ *Switch off ignition and all electrical equipment, and remove ignition key.*
- ◆ *Do not flash the headlights.*

#### Removing

- Turn light switch to position “0”.
- Switch off the ignition and all electrical equipment and store the ignition key outside the vehicle.
- Do not flash the headlights.
- Right-side: Remove air cleaner housing ⇒ Rep. gr. 23 ; Air cleaner; Removing and installing air cleaner housing or ⇒ Rep. gr. 24 ; Air cleaner; Removing and installing air cleaner housing .





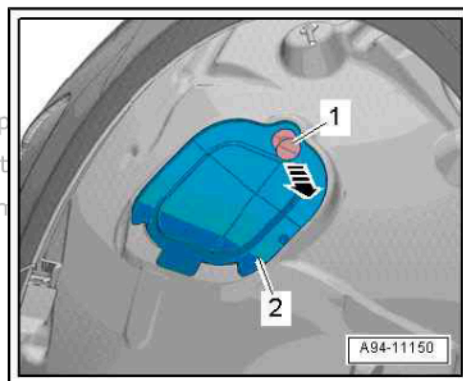
- Loosen fastener -1- and disengage cap -2- from wheel housing liner (front section) -arrow-.



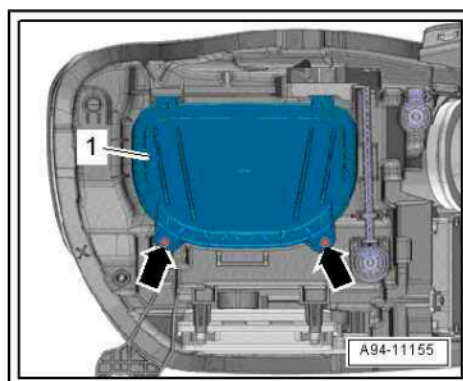
**Note**

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*Depending on the version, a bolt may be fitted instead of the fastener.*



- Remove bolts -arrows-.
- Press wheel housing liner (front section) slightly towards rear and detach housing cover -1-.

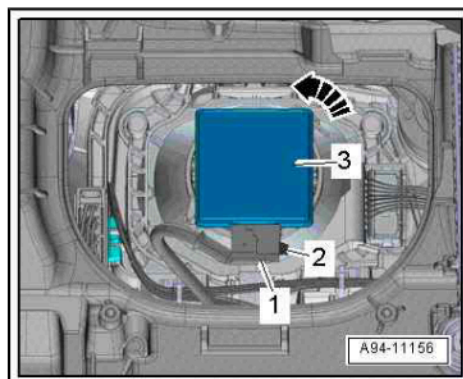


- Press retaining tab -2- to unplug electrical connector -1-.



**Note**

*Disregard -Item 3- and -arrow-.*



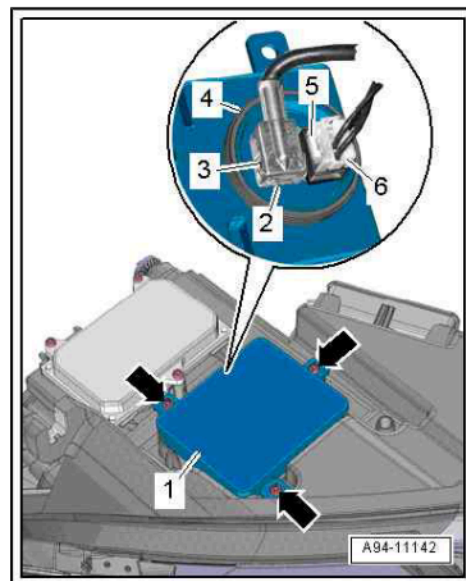


- Remove front wheel spoiler ➔ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (front) .
- Remove bolts -arrows-.
- Detach control unit -1- from headlight housing.
- Press retaining tabs -2, 5- and disconnect adapter cable -3- and electrical connector -6-.
- Detach control unit.



#### Note

*If the left gas discharge bulb control unit cannot be removed as described, the water radiator (left-side) for the charge air cooling circuit must be removed. Remove radiator (left-side) for charge air cooling circuit ➔ Rep. gr. 19 ; Radiator/radiator fans; Exploded view - auxiliary radiator .*



#### Installing

Installation is carried out in reverse order; note the following:

- Check seal -4- between control unit and headlight housing for damage.
- Close housing cover and tighten bolts.

#### Tightening torques

- ◆ ➔ [“1.1.3 Exploded view - headlights, gas discharge headlight up to model year 2014”, page 133](#)

### 1.14.2 Removing and installing gas discharge bulb control unit -J343- / -J344- - vehicles from model year 2015 onwards

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#### WARNING

*High voltage! Danger to life! Observe environmental requirements.*

- ◆ *Safety precautions when handling gas discharge bulbs ➔ [page 2](#) .*

#### Removing

- Turn light switch to position “0”.
- Switch off the ignition and all electrical equipment and store the ignition key outside the vehicle.
- Do not flash the headlights.

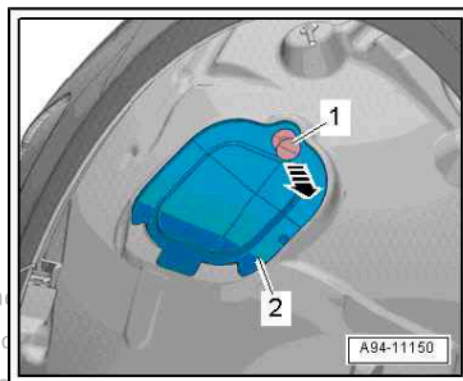


- Loosen fastener -1- and disengage cap -2- from wheel housing liner (front section) -arrow-.

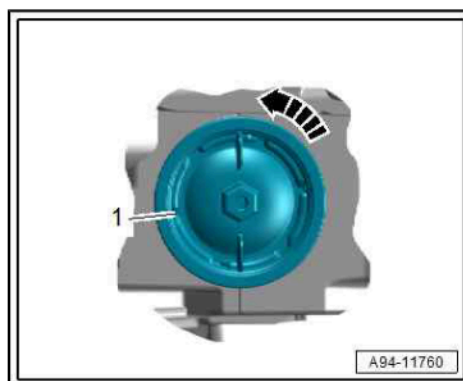


#### Note

- ◆ Depending on the version, a bolt may be fitted instead of the fastener.
- ◆ Detach wheel housing liner (front) on vehicles without cap ⇒ General body repairs, exterior; Rep. gr. 66; Wheel housing liners; Removing and installing wheel housing liner (front).



- Turn housing cover -1- anti-clockwise -arrow- and detach from headlight housing.

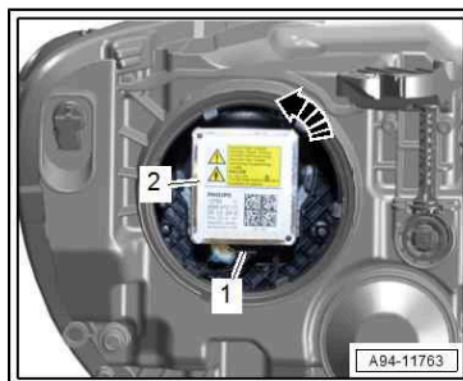


- Turn gas discharge bulb -2- anti-clockwise -arrow- and take out of housing.
- Unplug electrical connector -1-.

#### Installing

Installation is carried out in reverse order; note the following:

- Fit new gas discharge bulb in housing; do not touch glass part of bulb with bare hands.
- Installation position: The electrical connection faces downwards.





## 1.15 Removing and installing control unit for daytime running light and side light - J860- / -J861-

⇒ [“1.15.1 Removing and installing control unit for daytime running light and side light J860 / J861 - vehicles up to model year 2014”, page 195](#)

⇒ [“1.15.2 Removing and installing control unit for daytime running light and side light J860 / J861 - vehicles from model year 2015 onwards”, page 196](#)

### 1.15.1 Removing and installing control unit for daytime running light and side light - J860- / -J861- - vehicles up to model year 2014



#### WARNING

*High voltage! Danger to life!*

- ◆ *Ensure that any part of the gas discharge headlights marked with yellow high-voltage warning symbols are de-energised when you are working on them.*
- ◆ *Switch off ignition and all electrical equipment, and remove ignition key.*
- ◆ *Do not flash the headlights.*

#### Removing

- Turn light switch to position “0”.
- Switch off the ignition and all electrical equipment and store the ignition key outside the vehicle.
- Do not flash the headlights.
- Remove lock carrier cover ⇒ General body repairs, exterior; Rep. gr. 63 ; Bumper (front); Removing and installing attachments .
- Right-side: Remove air cleaner housing ⇒ Rep. gr. 23 ; Air cleaner; Removing and installing air cleaner housing or ⇒ Rep. gr. 24 ; Air cleaner; Removing and installing air cleaner housing .
- Left-side: If fitted, remove resonator with air cleaner ⇒ Rep. gr. 26 ; Secondary air system; Exploded view - secondary air system .



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- Remove bolts -arrows-.
- Detach control unit -1- from headlight housing.
- Press release tab -2- to unplug electrical connector -3-.
- Detach control unit.

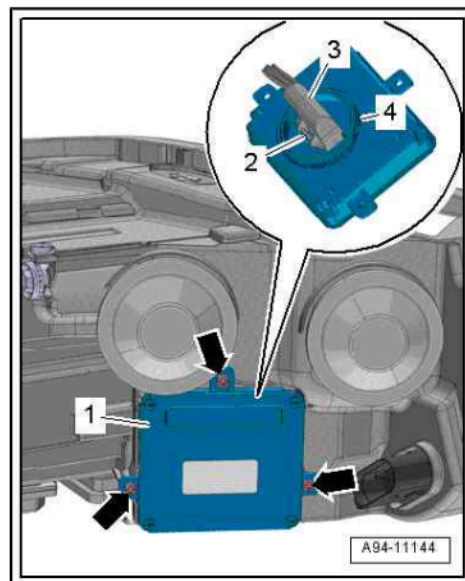
#### Installing

Installation is carried out in reverse order; note the following:

- Check seal -4- between control unit and headlight housing for damage.

#### Tightening torques

- ♦ ➔ "1.1.3 Exploded view - headlights, gas discharge headlight up to model year 2014", page 133



### 1.15.2 Removing and installing control unit for daytime running light and side light - J860- / J861- - vehicles from model year 2015 onwards



#### WARNING

*High voltage! Danger to life!*

- ♦ *Ensure that any part of the gas discharge headlights marked with yellow high-voltage warning symbols are de-energised when you are working on them.*
- ♦ *Switch off ignition and all electrical equipment, and remove ignition key.*
- ♦ *Do not flash the headlights.*

#### Removing

- Turn light switch to position "0".
- Switch off the ignition and all electrical equipment and store the ignition key outside the vehicle.
- Do not flash the headlights.
- Right-side: Remove air cleaner housing ➔ Rep. gr. 23 ; Air cleaner; Removing and installing air cleaner housing or ➔ Rep. gr. 24 ; Air cleaner; Removing and installing air cleaner housing .
- Left-side: If fitted, remove resonator with air cleaner ➔ Rep. gr. 26 ; Secondary air system; Exploded view - secondary air system .





- Remove bolts -arrows-.
- Detach control unit -4- from headlight housing.
- Press release tab -2- to unplug electrical connector -3-.
- Detach control unit.

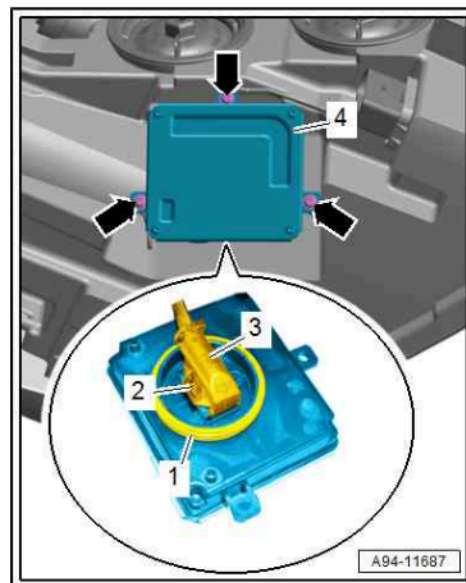
#### Installing

Installation is carried out in reverse order; note the following:

- Check seal -1- for damage.

#### Tightening torques

- ◆ ⇒ ["1.1.4 Exploded view - headlights, gas discharge headlight from model year 2015 onwards", page 135](#)



## 1.16 Removing and installing output module for headlight -J667- / -J668-



#### WARNING

*High voltage! Danger to life!*

- ◆ *Ensure that any part of the gas discharge headlights marked with yellow high-voltage warning symbols are de-energised when you are working on them.*
- ◆ *Switch off ignition and all electrical equipment, and remove ignition key.*
- ◆ *Do not flash the headlights.*

#### Removing

- Turn light switch to position "0".
- Switch off the ignition and all electrical equipment and store the ignition key outside the vehicle.
- Do not flash the headlights.



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- Remove front wheel housing liner ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (front) .
- Remove bolts -arrows-.
- Detach output module -1- for headlight.

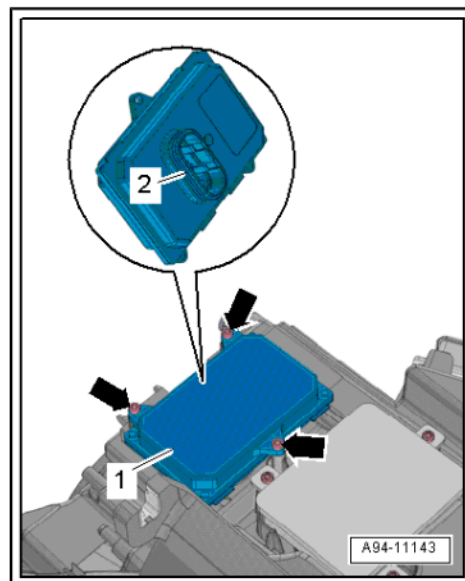
#### Installing

Installation is carried out in reverse order; note the following:

- Check seal -2- between output module and housing cover for damage.

#### Tightening torques

- ♦ ⇒ ["1.1.3 Exploded view - headlights, gas discharge headlight up to model year 2014", page 133](#)



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## 1.17 Removing and installing output module for headlight

⇒ ["1.17.1 Removing and installing output module 1 for LED headlight A27 / A31 - vehicles up to model year 2014", page 199](#)

⇒ ["1.17.2 Removing and installing output module 1 for LED headlight A27 / A31 - vehicles from model year 2015 onwards", page 200](#)

⇒ ["1.17.3 Removing and installing output module 2 for LED headlight A28 / A32 - vehicles up to model year 2014", page 201](#)

⇒ ["1.17.4 Removing and installing output module 2 for LED headlight A28 / A32 - vehicles from model year 2015 onwards", page 201](#)

⇒ ["1.17.5 Removing and installing output module 3 for LED headlight A29 / A33 ", page 202](#)

⇒ ["1.17.6 Removing and installing output module 4 for LED headlight A34 / A30 ", page 204](#)

⇒ ["1.17.7 Removing and installing output module for matrix headlight A44 / A45 ", page 205](#)

### 1.17.1 Removing and installing output module 1 for LED headlight -A27- / -A31- - vehicles up to model year 2014

#### Removing

- Remove front wheel housing liner ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (front) .
- Remove bolts -arrows-.
- Pull off output module -2-.

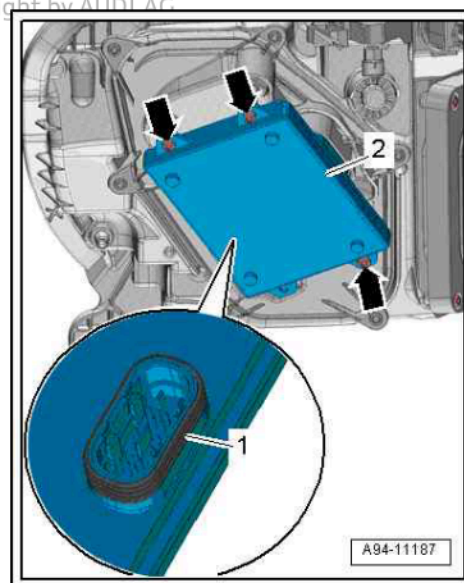
#### Installing

Installation is carried out in reverse order; note the following:

- Check seal -1- for damage.

#### Tightening torques

- ◆ ⇒ ["1.1.6 Exploded view - headlights, LED headlight up to model year 2014", page 137](#)



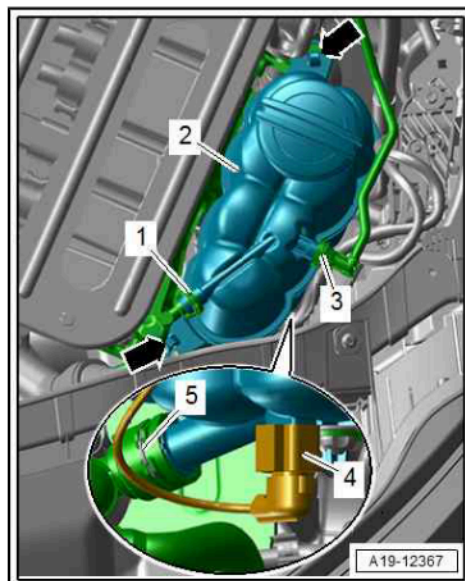


## 1.17.2 Removing and installing output module 1 for LED headlight -A27- / -A31- - vehicles from model year 2015 onwards

### Removing

#### e-tron:

- Drain off coolant ⇒ Rep. gr. 19 ; Cooling system/coolant; Draining and filling cooling system .
- Remove front wheel housing liner ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (front) .
- Lift retaining clips -1 and 3- and disconnect coolant lines.
- Release fasteners -arrows- and detach coolant expansion tank -2-.
- Unplug electrical connector -4-.
- Lift retaining clip -5- and detach coolant hose from coolant expansion tank.



#### All versions (continued):

- Right-side: Remove air cleaner housing ⇒ Rep. gr. 23 ; Air cleaner; Removing and installing air cleaner housing or ⇒ Rep. gr. 24 ; Air cleaner; Removing and installing air cleaner housing .
- Remove bolts -arrows-.
- Pull off output module -2-.

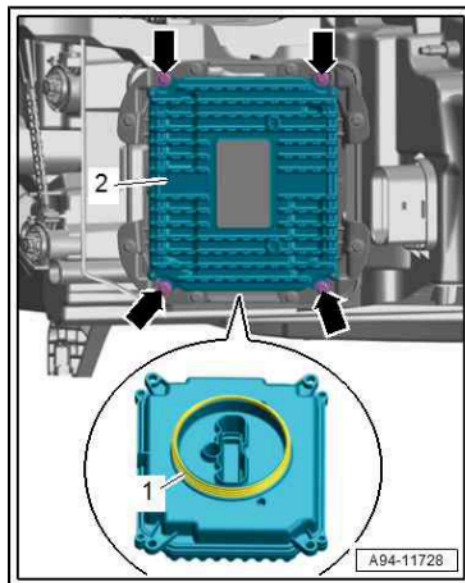
### Installing

Installation is carried out in reverse order; note the following:

- Check seal -1- for damage.
- Fill up with coolant ⇒ Rep. gr. 19 ; Cooling system/coolant; Draining and filling cooling system .

### Tightening torques

- ♦ ⇒ [“1.1.7 Exploded view - headlights, LED headlight from model year 2015 onwards”, page 139](#)



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### 1.17.3 Removing and installing output module 2 for LED headlight -A28- / -A32- - vehicles up to model year 2014

#### Removing

- Remove headlight housing ➔ [page 143](#) .
- Remove bolts -arrows-.
- Pull off output module -4-.
- Press release tab -1- to unplug electrical connector -2-.
- Remove output module.

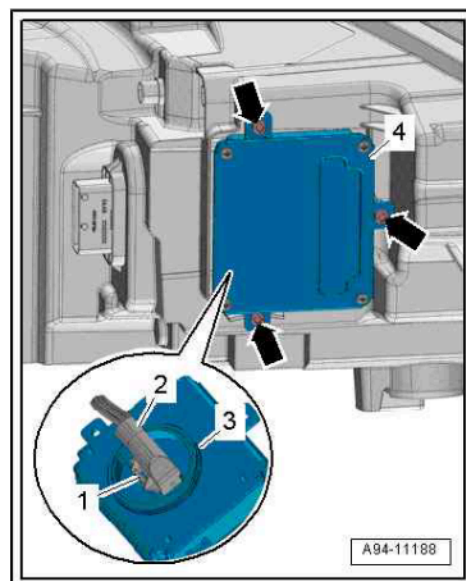
#### Installing

Installation is carried out in reverse order; note the following:

- Check seal -3- for damage.

#### Tightening torques

- ◆ ➔ ["1.1.6 Exploded view - headlights, LED headlight up to model year 2014", page 137](#)



### 1.17.4 Removing and installing output module 2 for LED headlight -A28- / -A32- - vehicles from model year 2015 onwards

#### Removing

Release wheel housing liner (front) and press to side ➔ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (front) .

- Remove bolts -arrows-.
- Pull off output module -4-.
- Press release tab -2- to unplug electrical connector -3-.
- Remove output module.

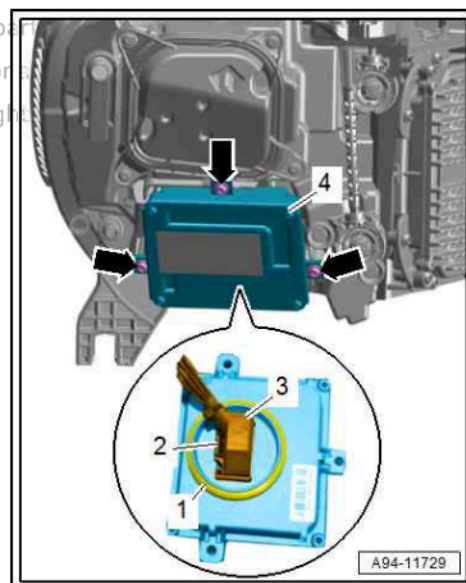
#### Installing

Installation is carried out in reverse order; note the following:

- Check seal -1- for damage.

#### Tightening torques

- ◆ ➔ ["1.1.7 Exploded view - headlights, LED headlight from model year 2015 onwards", page 139](#)







### 1.17.5 Removing and installing output module 3 for LED headlight -A29- / -A33-



#### Caution

*Risk of irreparable damage to electronic equipment.*

- ◆ *Requirement for cleanliness: Make sure no particles enter the headlight housing, in particular no metallic or otherwise conductive material.*
- ◆ *When working on the open headlight, ensure that no oil, grease, silicone or other material comes into contact with parts of the headlight. These materials can evaporate and build up a film inside the headlight.*
- ◆ *Do NOT touch the electronic printed circuit boards with bare hands, as this can cause migration.*
- ◆ *Electrostatic discharge (ESD) protection: The requirements according to DIN 613-40-5-1 must always be met when handling electronic equipment.*
- ◆ *Do not re-use electronic equipment (i.e. components, assemblies) which has been dropped.*
- ◆ *ESD (electrostatic discharge) workplace -VAS 6613- ⇒ Electrical system; General information; Rep. gr. 97; ESD (electrostatic discharge) workplace VAS 6613 .*



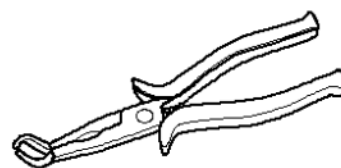
#### WARNING

*Observe safety precautions when working on vehicles with high-voltage system ⇒ [page 1](#) .*

Special tools and workshop equipment required

- ◆ Spark plug connector pliers - V.A.G 1922-

V.A.G 1922

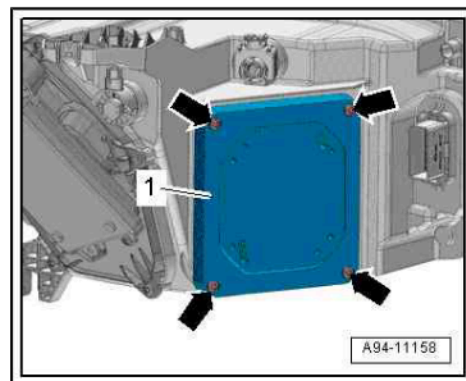


W00-1100

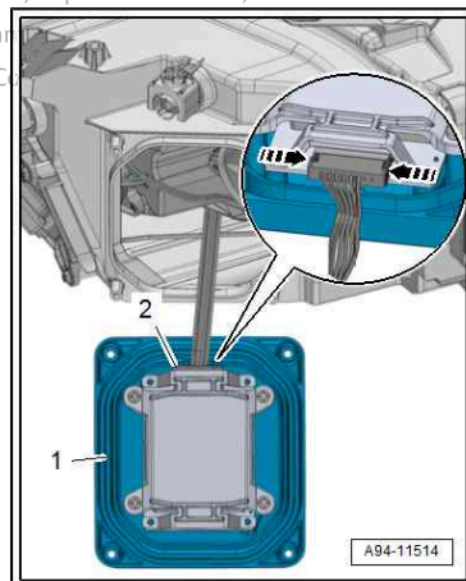


## Removing

- Right-side: Remove air cleaner housing ⇒ Rep. gr. 23 ; Air cleaner; Removing and installing air cleaner housing or ⇒ Rep. gr. 24 ; Air cleaner; Removing and installing air cleaner housing .
- Left-side: If fitted, remove resonator with air cleaner ⇒ Rep. gr. 26 ; Secondary air system; Removing and installing secondary air pump motor - V101- .
- Remove bolts -arrows-.
- Detach housing cover -1-.



- Unplug electrical connector at output module -2-; to do so, press release tabs -arrows- with spark plug connector pliers - V.A.G 1922- .
- Remove housing cover -1-.



- Remove bolts -arrows- and detach retaining frame -3- from housing cover -4-.
- Remove output module -2- from housing cover -1-.

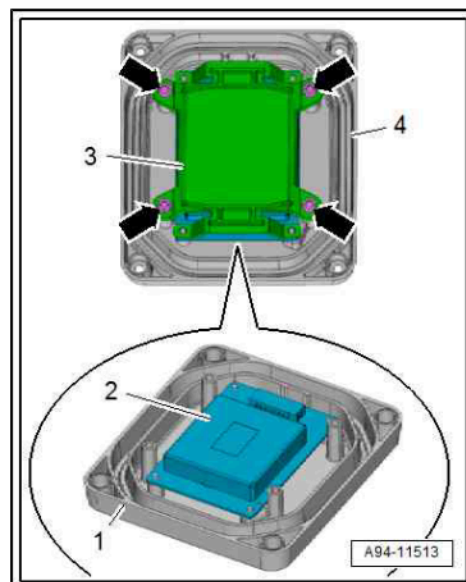
## Installing

Installation is carried out in reverse order; note the following:

- Close housing cover and tighten bolts.

## Tightening torques

- ◆ ⇒ ["1.1.6 Exploded view - headlights, LED headlight up to model year 2014", page 137](#)





### 1.17.6 Removing and installing output module 4 for LED headlight -A34- / -A30-



#### Caution

*Risk of irreparable damage to electronic equipment.*

- ◆ *Requirement for cleanliness: Make sure no particles enter the headlight housing, in particular no metallic or otherwise conductive material.*
- ◆ *When working on the open headlight, ensure that no oil, grease, silicone or other material comes into contact with parts of the headlight. These materials can evaporate and build up a film inside the headlight.*
- ◆ *Do NOT touch the electronic printed circuit boards with bare hands, as this can cause migration.*
- ◆ *Electrostatic discharge (ESD) protection: The requirements according to DIN 613-40-5-1 must always be met when handling electronic equipment.*
- ◆ *Do not re-use electronic equipment (i.e. components, assemblies) which has been dropped.*
- ◆ *ESD (electrostatic discharge) workplace -VAS 6613- ➔ Electrical system; General information; Rep. gr. 97 ; ESD (electrostatic discharge) workplace VAS 6613 .*

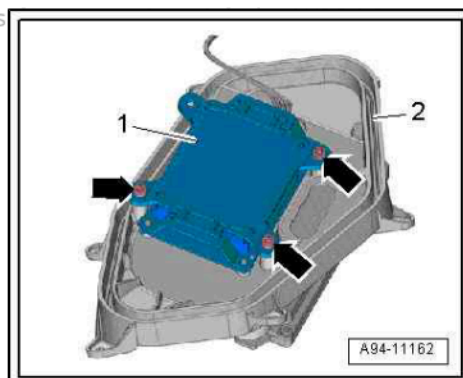
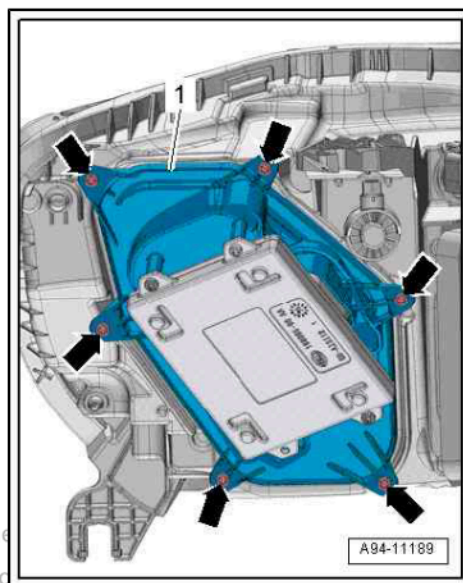
#### Removing

- Remove front wheel housing liner ➔ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (front) .
- Remove bolts -arrows-.
- Detach housing cover -1-.



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- Remove bolts -arrows- and detach retaining frame -1- from housing cover -2-.





- Remove output module -2- from housing cover -1-.
- Press release tabs -arrows- to unplug electrical connector.

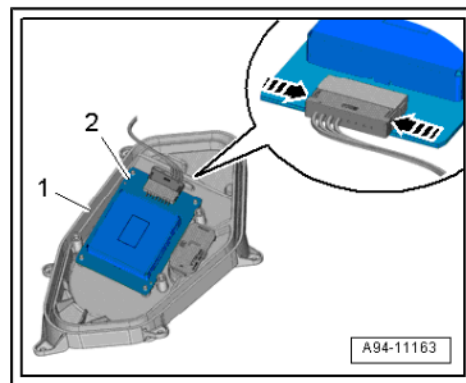
#### Installing

Installation is carried out in reverse order; note the following:

- Close housing cover and tighten bolts.

#### Tightening torques

- ◆ ⇒ ["1.1.6 Exploded view - headlights, LED headlight up to model year 2014", page 137](#)



### 1.17.7 Removing and installing output module for matrix headlight -A44- / -A45-

#### Removing

- Remove headlight housing ⇒ [page 145](#) .
- Remove bolts -arrows-.
- Pull off output module -1-.

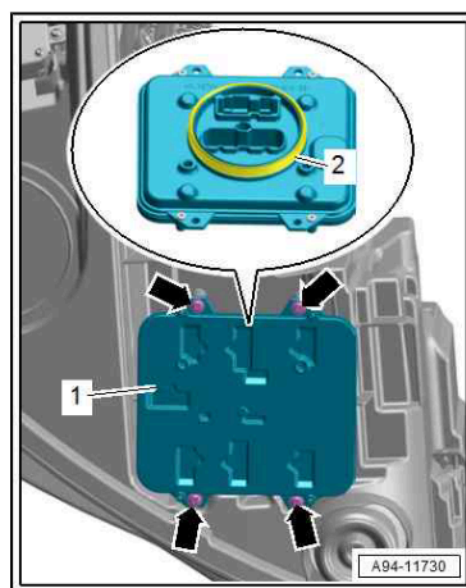
#### Installing

Installation is carried out in reverse order; note the following:

- Check seal -2- between output module and headlight for damage.

#### Tightening torques

- ◆ ⇒ ["1.1.7 Exploded view - headlights, LED headlight from model year 2015 onwards", page 139](#)



### 1.18 Removing and installing headlight range control motor -V48- / -V49-

⇒ ["1.18.1 Removing and installing headlight range control motor V48 / V49 - halogen headlights", page 205](#)

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⇒ ["1.18.2 Removing and installing headlight range control motor V48 / V49 - gas discharge headlights up to model year 2014", page 207](#)

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⇒ ["1.18.3 Removing and installing headlight range control motor V48 / V49 - gas discharge headlights from model year 2015 onwards", page 208](#)

⇒ ["1.18.4 Removing and installing headlight range control motor V48 / V49 - LED headlights up to model year 2014", page 210](#)

⇒ ["1.18.5 Removing and installing headlight range control motor V48 / V49 - LED headlights from model year 2015 onwards", page 211](#)

#### 1.18.1 Removing and installing headlight range control motor -V48- / -V49- - halogen headlights

Special tools and workshop equipment required

- ◆ Protective gloves





- ◆ Safety goggles
- ◆ Carpet knife

#### Removing

- Remove headlight housing ⇒ [page 142](#) .



#### Note

- ◆ *Before renewing headlight range control motor, headlight housing must be cut open at specified location with a sharp carpet knife.*
- ◆ *For subsequent sealing of assembly opening, housing cover is available ⇒ Electronic parts catalogue*



#### WARNING

*Risk of injury and damage.*

- ◆ *Wear protective gloves and safety goggles.*
- ◆ *To prevent damage to electrical wiring in headlight housing, do not cut too deep.*

- Cut dummy cover -1- out of headlight housing -2- using a sharp carpet knife.

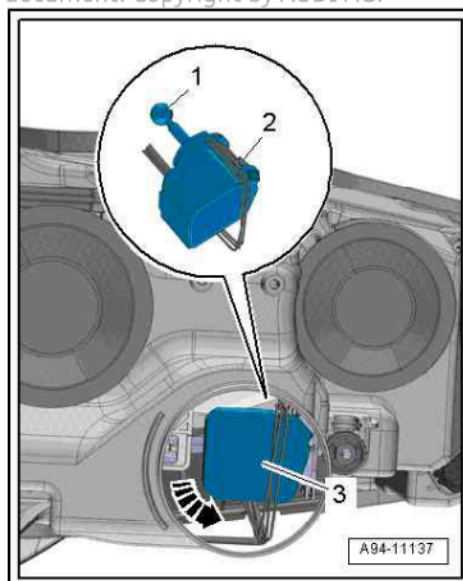
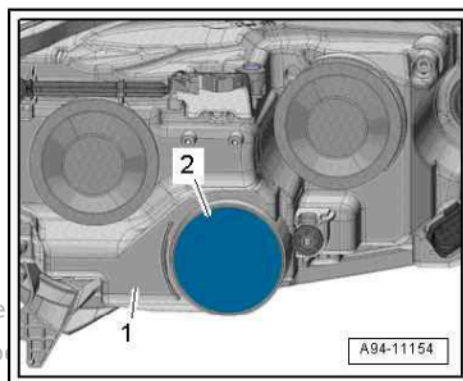


#### Note

*Thoroughly remove metal particles and residue (caused by removing dummy cover) from headlight housing.*

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- Turn control motor -3- anticlockwise -arrow- and swivel upwards; this disengages ball head -1- on actuator shaft downwards from ball head mounting.
- Remove control motor.
- Unplug electrical connector -2-.



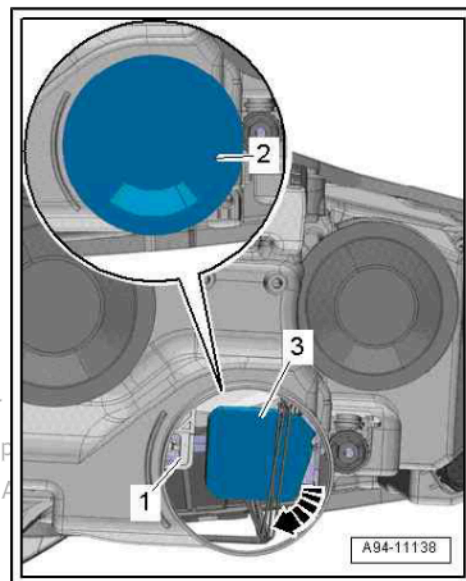




## Installing

Installation is carried out in reverse order; note the following:

- When inserting, plug in electrical connector.
- Pull reflector -1- towards rear and engage ball head on actuator shaft in ball head mounting of reflector.
- Engage control motor -3- clockwise -arrow-.
- Close opening in headlight housing with housing cover -2- from repair kit ➔ Electronic parts catalogue .
- Adjust headlights ➔ [page 148](#) .



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## 1.18.2 Removing and installing headlight range control motor -V48- / -V49- - gas discharge headlights up to model year 2014

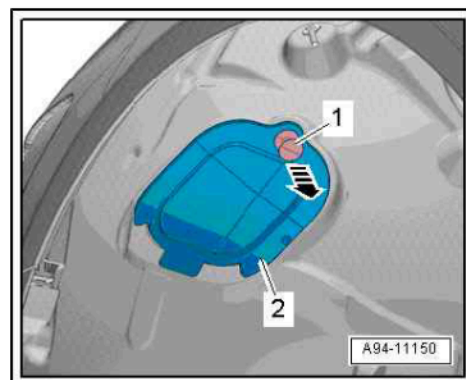
### Removing

- Right-side: Remove air cleaner housing ➔ Rep. gr. 23 ; Air cleaner; Removing and installing air cleaner housing or ➔ Rep. gr. 24 ; Air cleaner; Removing and installing air cleaner housing .
- Loosen fastener -1- and disengage cap -2- from wheel housing liner (front section) -arrow-.

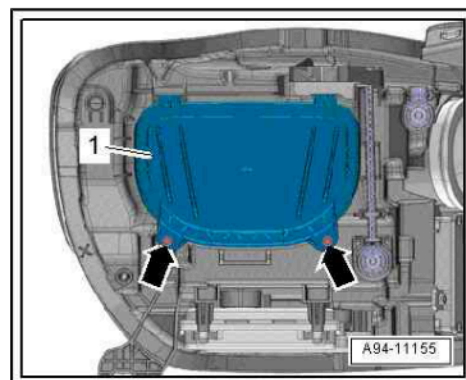


Note

*Depending on the version, a bolt may be fitted instead of the fastener.*

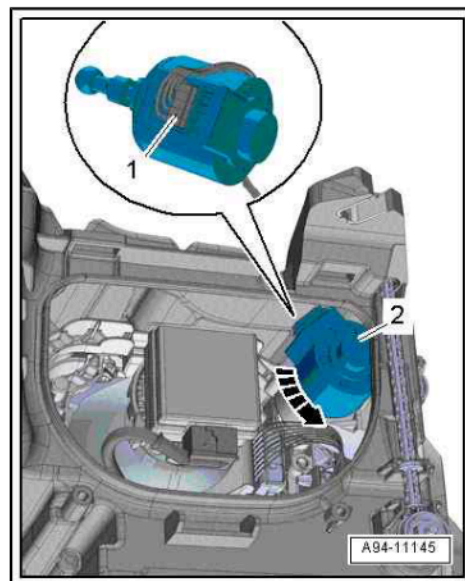


- Remove bolts -arrows-.
- Press wheel housing liner (front section) slightly towards rear and detach housing cover -1-.





- Turn control motor -2- anticlockwise -arrow- and swivel downwards; this disengages ball head on actuator shaft upwards from ball head mounting.
- Remove control motor.
- Unplug electrical connector -1-.



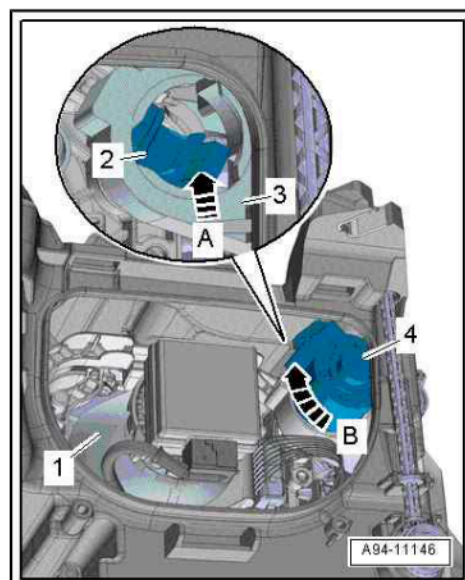
### Installing

Installation is carried out in reverse order; note the following:

- When inserting, plug in electrical connector.
- Pull reflector -1- towards rear; ball head mounting -2- must sit in guide -3- of housing -arrow A-.
- Insert ball head on actuator shaft in ball head mounting of reflector and engage control motor -4- clockwise -arrow B-.
- Close housing cover and tighten bolts.
- Adjust headlights ➔ [page 148](#) .

### Tightening torques

- ◆ ➔ ["1.1.3 Exploded view - headlights, gas discharge headlight up to model year 2014", page 133](#)



## 1.18.3 Removing and installing headlight range control motor -V48- / -V49- - gas discharge headlights from model year 2015 onwards

### Special tools and workshop equipment required

- ◆ Protective gloves
- ◆ Safety goggles
- ◆ Carpet knife

### Removing

- Remove headlight housing ➔ [page 145](#) .
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**i** Note

- ◆ Before renewing headlight range control motor, headlight housing must be cut open at specified location with a sharp carpet knife.
- ◆ For subsequent sealing of assembly opening, housing cover is available ⇒ *Electronic parts catalogue*



**WARNING**

*Risk of injury and damage.*

- ◆ Wear protective gloves and safety goggles.
- ◆ To prevent damage to electrical wiring in headlight housing, do not cut too deep.

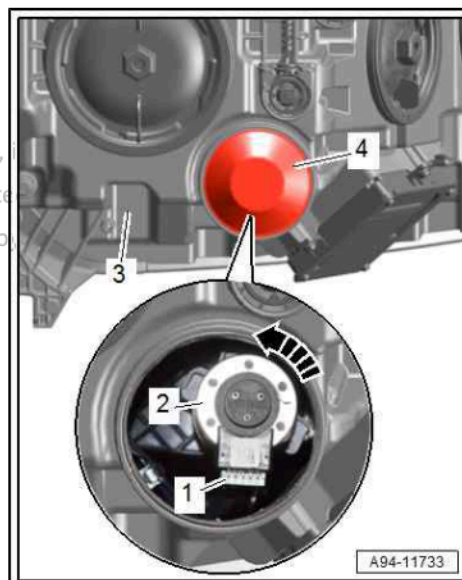
- Cut dummy cover -4- out of headlight housing -3- using a sharp carpet knife.



**Note**

*Thoroughly remove metal particles and residue (caused by removing dummy cover) from headlight housing.*

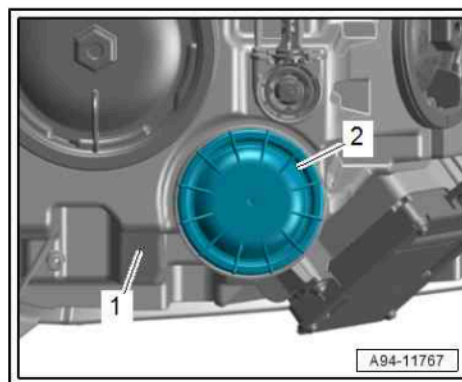
- Unplug electrical connector -1-.
- Turn control motor -2- for left headlight anti-clockwise -arrow- and for right headlight clockwise. Swivel control motor downwards; this disengages ball head on actuator shaft upwards from ball head mounting.
- Remove control motor.



**Installing**

Installation is carried out in reverse order; note the following:

- Close opening in headlight housing -1- with housing cover -2- from repair kit ⇒ *Electronic parts catalogue* .
- Adjust headlights ⇒ [page 148](#) .





#### 1.18.4 Removing and installing headlight range control motor -V48- / -V49- - LED headlights up to model year 2014



##### Caution

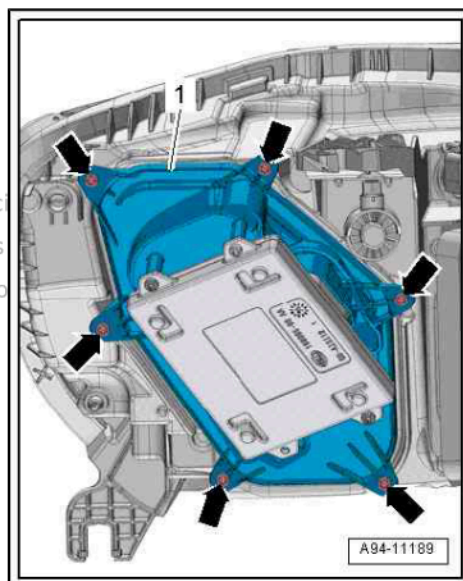
*Risk of irreparable damage to electronic equipment.*

- ◆ *Requirement for cleanliness: Make sure no particles enter the headlight housing, in particular no metallic or otherwise conductive material.*
- ◆ *When working on the open headlight, ensure that no oil, grease, silicone or other material comes into contact with parts of the headlight. These materials can evaporate and build up a film inside the headlight.*
- ◆ *Do NOT touch the electronic printed circuit boards with bare hands, as this can cause migration.*
- ◆ *Electrostatic discharge (ESD) protection: The requirements according to DIN 613-40-5-1 must always be met when handling electronic equipment.*
- ◆ *Do not re-use electronic equipment (i.e. components, assemblies) which has been dropped.*
- ◆ *ESD (electrostatic discharge) workplace -VAS 6613- ➔ Electrical system; General information; Rep. gr. 97 ; ESD (electrostatic discharge) workplace VAS 6613 .*

##### Removing

- Remove front wheel housing liner ➔ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (front) .
- Remove bolts -arrows-.
- Detach housing cover -1-.

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- Remove bolts -2, 4-.
- Swivel control motor -1- upwards -arrow-; this disengages ball head on actuator shaft downwards from ball head mounting.
- Remove control motor.
- Unplug electrical connector -4-.

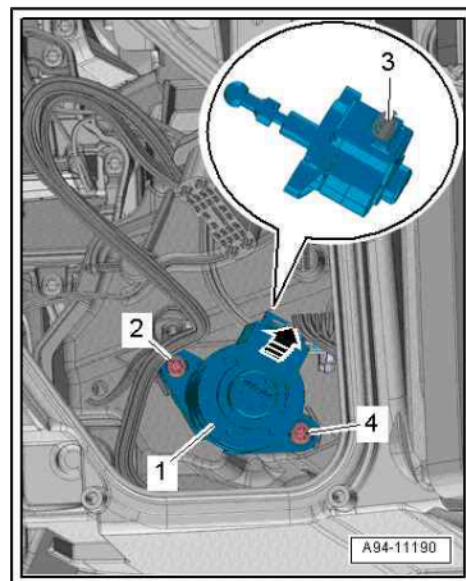
#### Installing

Installation is carried out in reverse order; note the following:

- When inserting, plug in electrical connector.
- Engage ball head on actuator shaft in ball head mounting of reflector.
- Close housing cover and tighten bolts.
- Adjust headlights ➔ [page 148](#) .

#### Tightening torques

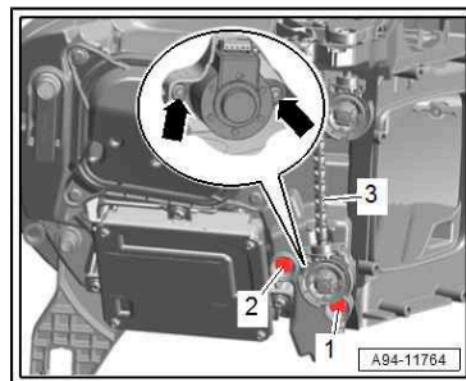
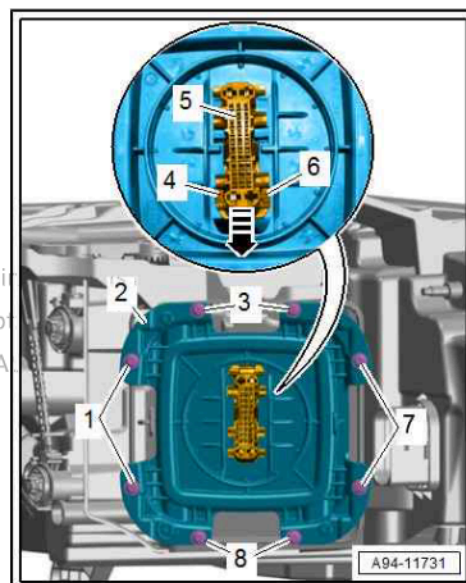
- ◆ ➔ ["1.1.3 Exploded view - headlights, gas discharge headlight up to model year 2014", page 133](#)



### 1.18.5 Removing and installing headlight range control motor -V48- / -V49- - LED headlights from model year 2015 onwards

#### Removing

- Remove headlight housing ➔ [page 145](#) .
- Remove output module 2 for LED headlight ➔ [page 201](#) .
- Unscrew bolts -1, 3, 7, 8- and detach mounting -2-.
- Release fasteners -4, 6- and guide connector -5- out of mounting.



- Remove pins -1, 2- from headlight housing. You will need to break them to do so.



#### Note

*Thoroughly remove metal particles and residue (caused by removing pins) from headlight housing.*

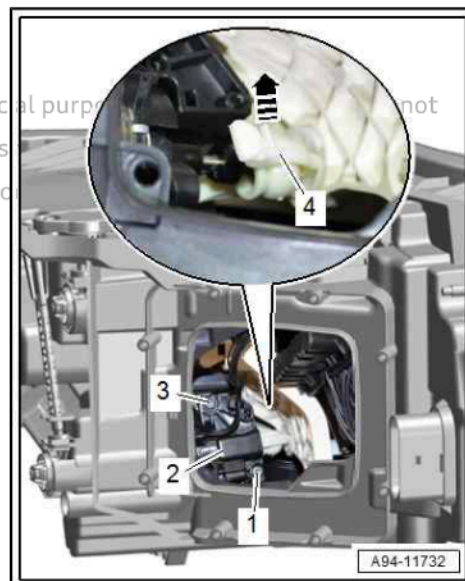
- Remove bolts -arrows- through openings.
- Turn height adjuster screw -3- clockwise as far as stop.



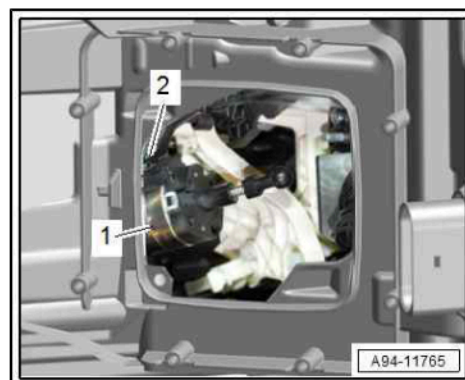


- Unscrew bolts -1, 3- and detach bracket -2-.
- Press ball head of actuator shaft upwards -arrow- out of its mounting -4- by swivelling control motor, and take out headlight range control motor.

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- Take control motor -1- out of headlight housing, as shown in illustration.
- Unplug electrical connector -2-.



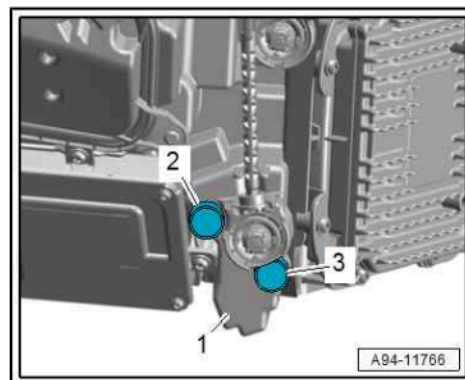
### Installing

Installation is carried out in reverse order; note the following:

- Close opening in headlight housing -1- with grommets -2, 3- from repair kit ⇒ Electronic parts catalogue .
- Adjust headlights ⇒ [page 148](#) .

### Tightening torques

- ◆ ⇒ [“1.1.8 Exploded view - headlights, LED headlight repair kit from model year 2015 onwards”, page 141](#)





## 1.19 Removing and installing headlight fan

⇒ "1.19.1 Removing and installing headlight fan V407 / V408 - vehicles up to model year 2014", page 213

⇒ "1.19.2 Removing and installing headlight fan V407 / V408 - vehicles from model year 2015 onwards", page 215

⇒ "1.19.3 Removing and installing headlight fan 2 V463 / V464", page 216

### 1.19.1 Removing and installing headlight fan - V407- / -V408- - vehicles up to model year 2014



#### Caution

*Risk of irreparable damage to electronic equipment.*

- ◆ *Requirement for cleanliness: Make sure no particles enter the headlight housing, in particular no metallic or otherwise conductive material.*
- ◆ *When working on the open headlight, ensure that no oil, grease, silicone or other material comes into contact with parts of the headlight. These materials can evaporate and build up a film inside the headlight.*
- ◆ *Do NOT touch the electronic printed circuit boards with bare hands, as this can cause migration.*
- ◆ *Electrostatic discharge (ESD) protection: The requirements according to DIN 613-40-5-1 must always be met when handling electronic equipment.*
- ◆ *Do not re-use electronic equipment (i.e. components, assemblies) which has been dropped.*
- ◆ *ESD (electrostatic discharge) workplace -VAS 6613- ⇒ Electrical system; General information; Rep. gr. 97; ESD (electrostatic discharge) workplace VAS 6613.*

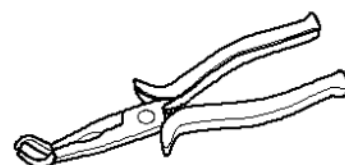


#### WARNING

*Observe safety precautions when working on vehicles with high-voltage system ⇒ [page 1](#).*

#### Special tools and workshop equipment required

- ◆ Spark plug connector pliers - V.A.G 1922-



V.A.G 1922

W00-1100



## Removing

- Right-side: Remove air cleaner housing ⇒ Rep. gr. 23 ; Air cleaner; Removing and installing air cleaner housing or ⇒ Rep. gr. 24 ; Air cleaner; Removing and installing air cleaner housing .
- Left-side: If fitted, remove resonator with air cleaner ⇒ Rep. gr. 26 ; Secondary air system; Removing and installing secondary air pump motor - V101- .
- Remove bolts -arrows-.
- Detach housing cover -1-.
- Unplug electrical connector at output module -2-; to do so, press release tabs -arrows- with spark plug connector pliers - V.A.G 1922- .
- Remove housing cover -1-.



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- Remove bolts -arrows-.
- Take fan -2- out of headlight housing -3-.
- Unplug electrical connector -1-.

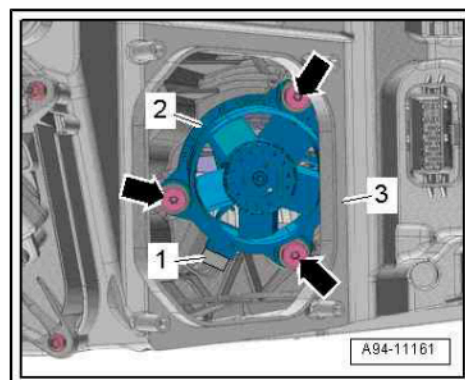
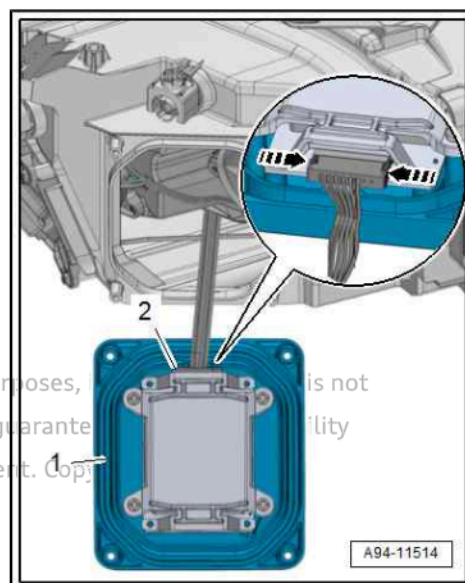
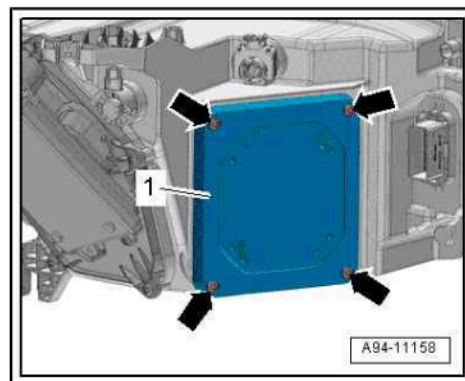
## Installing

Installation is carried out in reverse order; note the following:

- Close housing cover and tighten bolts.

## Tightening torques

- ♦ ⇒ ["1.1.6 Exploded view - headlights, LED headlight up to model year 2014", page 137](#)





## 1.19.2 Removing and installing headlight fan - V407- / -V408- - vehicles from model year 2015 onwards

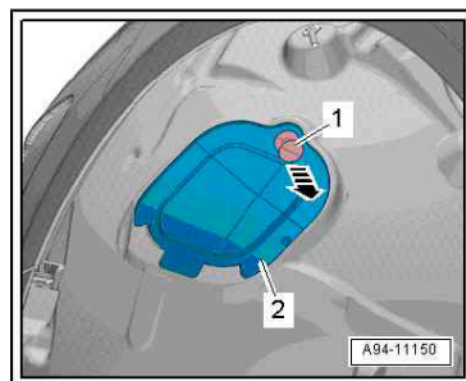
### Removing

- Loosen fastener -1- and disengage cap -2- from wheel housing liner (front section) -arrow-.

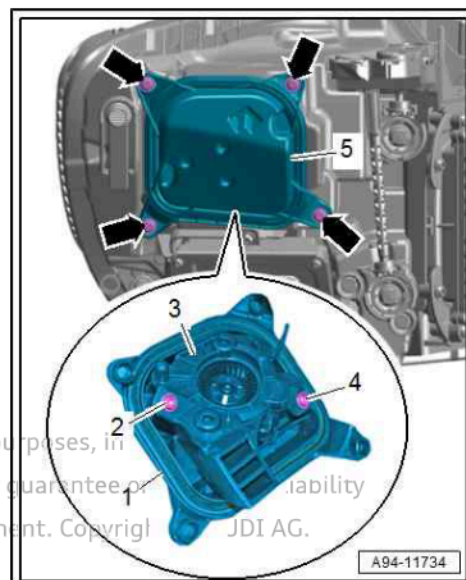


#### Note

- ◆ Depending on the version, a bolt may be fitted instead of the fastener.
- ◆ Detach wheel housing liner (front) on vehicles without cap ⇒ General body repairs, exterior; Rep. gr. 66; Wheel housing liners; Removing and installing wheel housing liner (front) .
- Release wheel housing liner (front) and press to side ⇒ General body repairs, exterior; Rep. gr. 66; Wheel housing liners; Removing and installing wheel housing liner (front) .
- Remove bolts -arrows-.
- Detach housing cover -5-.
- Remove bolts -2, 4-.
- Detach mounting -3- with fan from housing cover -1-.



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- Press release tab to unplug electrical connector -2-.
- Unscrew bolt -4- and detach fan -3- from mounting -1-.

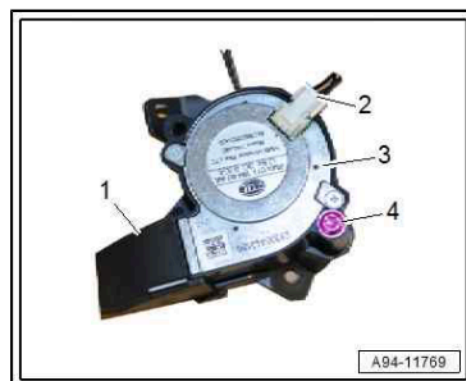
### Installing

Installation is carried out in reverse order; note the following:

- Close housing cover and tighten bolts.

### Tightening torques

- ◆ ⇒ ["1.1.7 Exploded view - headlights, LED headlight from model year 2015 onwards", page 139](#)







### 1.19.3 Removing and installing headlight fan 2 -V463- / -V464-

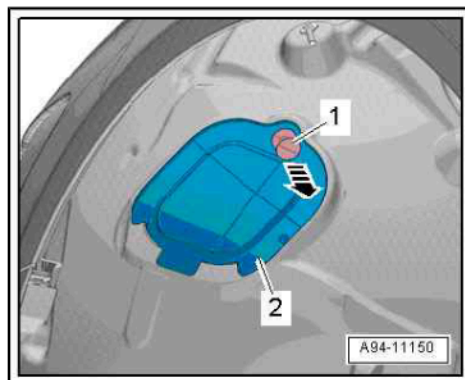
#### Removing

- Loosen fastener -1- and disengage cap -2- from wheel housing liner (front section) -arrow-.



#### Note

- ◆ Depending on the version, a bolt may be fitted instead of the fastener.
- ◆ Detach wheel housing liner (front) on vehicles without cap ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (front) .
- Release wheel housing liner (front) and press to side ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (front) .
- Turn housing cover -1- anti-clockwise -arrow- and detach from headlight housing.
- Remove bolts -2, 5-.
- Detach fan -3-.
- Press release tab to unplug electrical connector -4-.

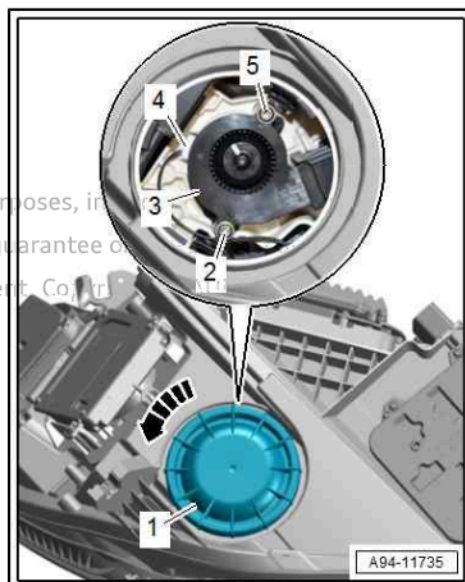


#### Installing

Installation is carried out in reverse sequence.

#### Tightening torques

- ◆ ⇒ ["1.1.7 Exploded view - headlights, LED headlight from model year 2015 onwards", page 139](#)



### 1.20 Installing repair kit for headlight housing

⇒ ["1.20.1 Installing repair kit for headlight housing - gas discharge bulb", page 216](#)

⇒ ["1.20.2 Installing repair kit for headlight housing - LED headlights", page 217](#)

#### 1.20.1 Installing repair kit for headlight housing - gas discharge bulb



#### Note

- ◆ Broken-off headlight retaining tabs can be renewed by installing repair kit. Renewing the entire headlight is then not necessary.
- ◆ Different repair kits are available for both headlights (left-side or right-side) ⇒ Electronic parts catalogue .



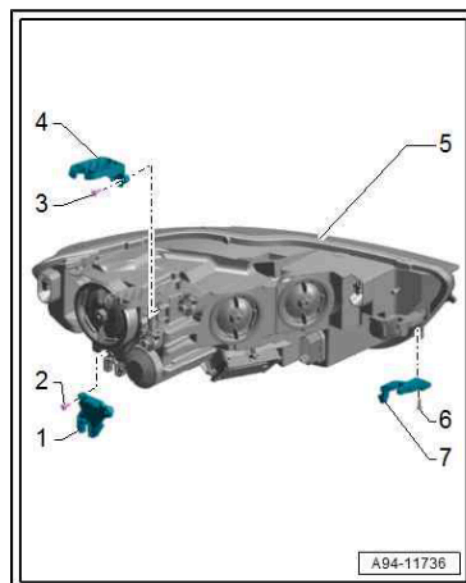


## Procedure

- Remove headlight with broken retaining tab ➔ [page 145](#) .
- Remove remains of broken retaining tab from headlight housing.
- Fit retaining tabs -1, 4, 7- from repair kit on headlight housing -5- and secure tabs with bolts -2, 3, 6-.

## Tightening torques

- ◆ ➔ ["1.1.5 Exploded view - headlights, gas discharge headlight repair kit from model year 2015 onwards"](#), [page 136](#)



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## 1.20.2 Installing repair kit for headlight housing - LED headlights



### Note

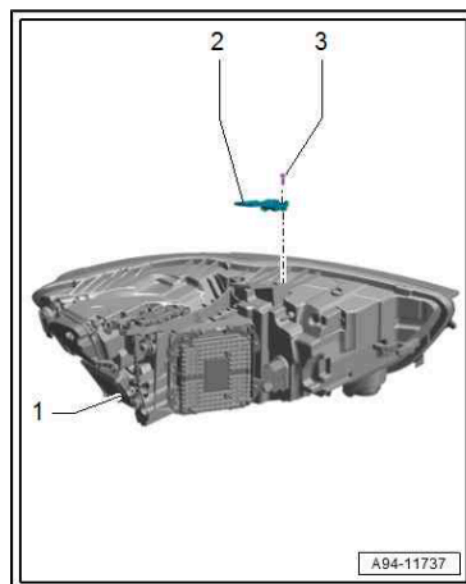
- ◆ *Broken-off headlight retaining tabs can be renewed by installing repair kit. Renewing the entire headlight is then not necessary.*
- ◆ *Different repair kits are available for both headlights (left-side or right-side) ➔ [Electronic parts catalogue](#) .*

## Procedure

- Remove headlight with broken retaining tab ➔ [page 145](#) .
- Remove remains of broken retaining tab from headlight housing.
- Fit retaining tab -2- from repair kit on headlight housing -1- and secure tab with bolts -3-.

## Tightening torques

- ◆ ➔ ["1.1.8 Exploded view - headlights, LED headlight repair kit from model year 2015 onwards"](#), [page 141](#)





## 1.21 Adapting headlights for driving on the left side of the road

⇒ ["1.21.1 Adapting headlights for driving on the left side of the road - halogen headlights", page 218](#)

⇒ ["1.21.2 Adapting headlights for driving on the left side of the road - gas discharge headlights and LED headlights", page 218](#)

### 1.21.1 Adapting headlights for driving on the left side of the road - halogen headlights

No adjustments need to be made to the headlights when travelling in countries where the vehicle is driven on the other side of the road.

### 1.21.2 Adapting headlights for driving on the left side of the road - gas discharge headlights and LED headlights

When travelling in countries where the vehicle is to be driven on the other side of the road, both headlights must be adjusted to prevent dazzling by the asymmetric dipped beam.

Vehicles up to model year 2014:

Procedure

- The headlights are adapted for driving on the left or right via the multimedia system operating unit in the menu option Exterior lighting ⇒ Owner's Manual for the vehicle .

Vehicles from model year 2015 onwards:

No adjustments need to be made to the headlights when travelling in countries where the vehicle is driven on the other side of the road.

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## 1.22 Adapting headlights for driving on the right side of the road

⇒ ["1.22.1 Adapting headlights for driving on the right side of the road - halogen headlights", page 218](#)

⇒ ["1.22.2 Adapting headlights for driving on the right side of the road - gas discharge headlights and LED headlights", page 218](#)

### 1.22.1 Adapting headlights for driving on the right side of the road - halogen headlights

No adjustments need to be made to the headlights when travelling in countries where the vehicle is driven on the other side of the road.

### 1.22.2 Adapting headlights for driving on the right side of the road - gas discharge headlights and LED headlights

When travelling in countries where the vehicle is to be driven on the other side of the road, both headlights must be adjusted to prevent dazzling by the asymmetric dipped beam.



Vehicles up to model year 2014:

Procedure

- The headlights are adapted for driving on the left or right via the multimedia system operating unit in the menu option Exterior lighting ⇒ Owner's Manual for the vehicle .

Vehicles from model year 2015 onwards:

No adjustments need to be made to the headlights when travelling in countries where the vehicle is driven on the other side of the road.



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## 2 Fog lights

⇒ "2.1 Exploded view - fog light", page 220

⇒ "2.2 Removing and installing fog lights", page 221

⇒ "2.3 Removing and installing fog light bulb L22 / L23",  
page 221

⇒ "2.4 Adjusting fog lights", page 221

### 2.1 Exploded view - fog light

1 - Air intake grille

2 - Fog light

- ❑ Removing and installing  
⇒ [page 221](#)

3 - Bolt

- ❑ 4.5 Nm

4 - Breather

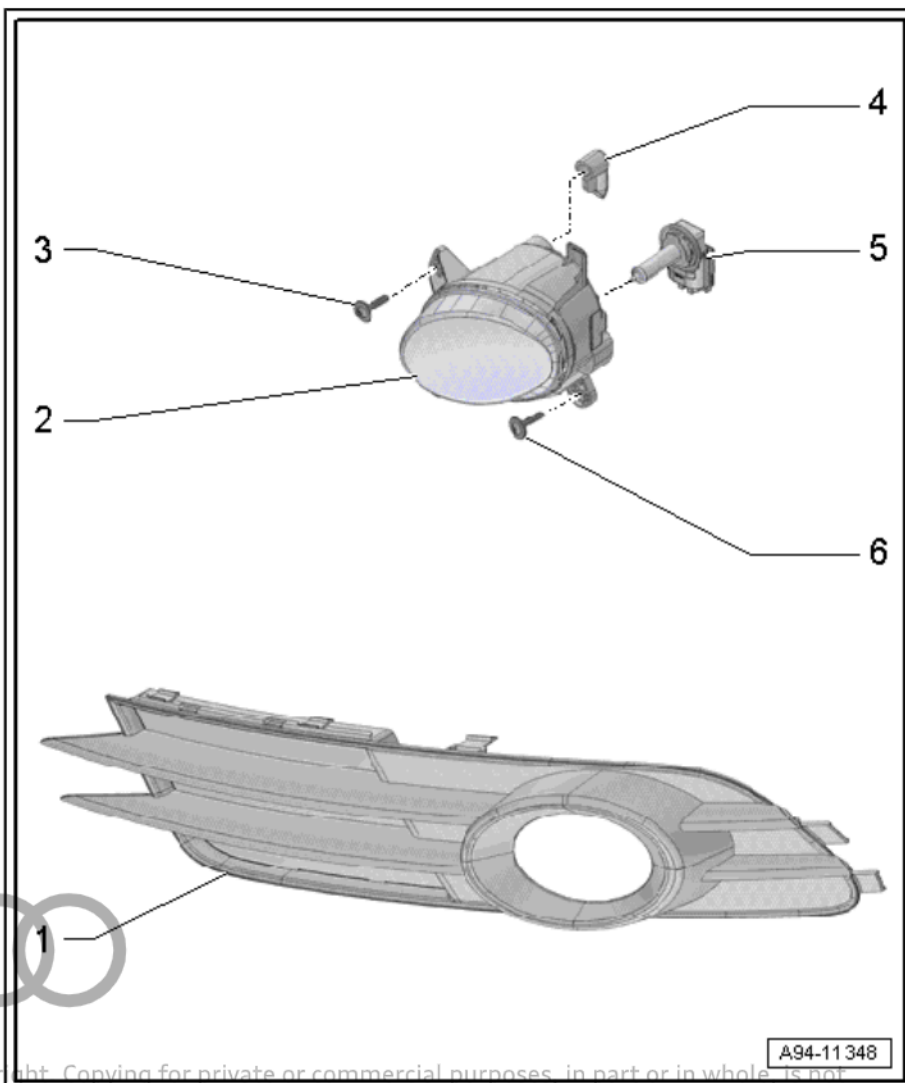
- ❑ For fog lights

5 - Fog light bulb

- ❑ Left fog light bulb - L22-
- ❑ Right fog light bulb - L23-
- ❑ 12 V, 55 W (H11)
- ❑ Removing and installing  
⇒ [page 221](#)

6 - Bolt

- ❑ 4.5 Nm



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## 2.2 Removing and installing fog lights

### Removing

- Remove air intake grille ➔ General body repairs, exterior; Rep. gr. 63 ; Bumper (front); Removing and installing attachments .
- Remove bolts -arrows-.
- Disengage guide -3- at mounting -2- and remove fog light -1-.
- Unplug electrical connector.

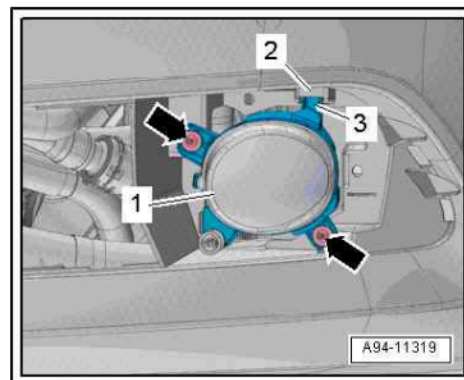
### Installing

Installation is carried out in reverse order; note the following:

- Adjust fog lights ➔ [page 221](#) .

### Tightening torques

- ◆ ➔ [“2.1 Exploded view - fog light”, page 220](#)



## 2.3 Removing and installing fog light bulb - L22- / -L23-

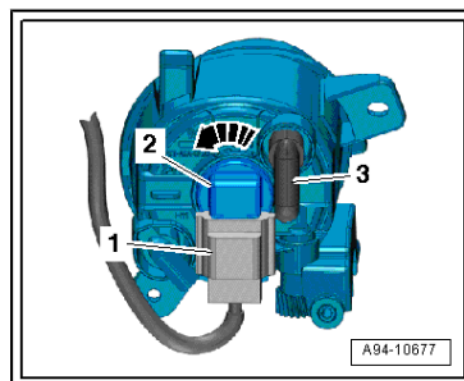
### Removing

- Remove fog light and unplug electrical connector -1- ➔ [page 221](#) .
- Detach breather hose -3- from fog light (left-side).
- Turn bulb -2- anti-clockwise -arrow- and pull it out of fog light housing.

### Installing

Installation is carried out in reverse order; note the following:

- Fit new bulb in housing; do not touch glass part of bulb with bare hands.
- Secure bulb by turning clockwise.
- Attach breather hose to fog light (left-side).
- Install fog light ➔ [page 221](#) .



## 2.4 Adjusting fog lights

- ◆ The following checking and adjustment procedures apply to all countries.
- ◆ However, national legislation and guidelines for individual countries must be adhered to.

### Requirements for checking and adjusting

- Tyre pressures OK.
- Headlight lenses must be clean and dry.
- Headlight lenses must not be damaged.
- Reflectors and bulbs OK
- Roll vehicle several metres or depress front and rear springs fully several times so that springs settle correctly.
- Release handbrake to relieve any load on suspension.
- Vehicle and headlight adjustment unit must be on a level surface.

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- Headlight adjustment unit must be aligned to vehicle ⇒ Operating instructions for headlight adjustment unit .
- Dip setting must be set on headlight adjustment unit ⇒ Operating instructions for headlight adjustment unit .
- Vehicle correctly loaded.

Vehicle loading: driver's seat occupied, otherwise vehicle unloaded (unladen weight).

- One person or 75 kg.

#### Preparations

- Vehicle must be on a level surface.
- Turn light switch to “dipped beam” position – not to “Auto” position.
- Pull light switch to “fog light” position.

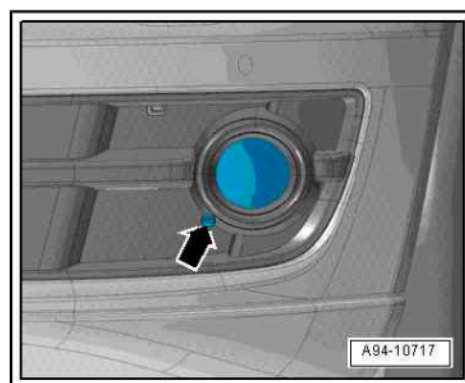
#### Headlight adjustment

- Turn adjuster screw -arrow- to adjust fog light range.
- Dip setting: 2%



#### Note

- ◆ *The percentage value is for a range of 10 m. Example: Converting a dip setting of 2.0% = 20 cm.*
- ◆ *Lateral adjustment is not possible.*



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### 3 Daytime running lights

⇒ ["3.1 Removing and installing daytime running light bulb L174 / L175 , headlight main beam bulb M30 / M32 - halogen headlights", page 223](#)

⇒ ["3.2 Removing and installing LED module for daytime running light and side light L176 / L177 ", page 223](#)

⇒ ["3.3 Exploded view - signature lighting", page 223](#)

⇒ ["3.4 Removing and installing signature lighting", page 224](#)

⇒ ["3.5 Removing and installing light for signature lighting L275 / L276 ", page 225](#)

#### 3.1 Removing and installing daytime running light bulb -L174- / -L175- , headlight main beam bulb -M30- / -M32- - halogen headlights

⇒ ["1.8 Removing and installing daytime running light bulb L174 / L175 , headlight main beam bulb M30 / M32 - halogen headlights", page 186](#)

#### 3.2 Removing and installing LED module for daytime running light and side light - L176- / -L177-

⇒ ["1.10 Removing and installing LED module for daytime running light and side light L176 / L177 ", page 188](#)

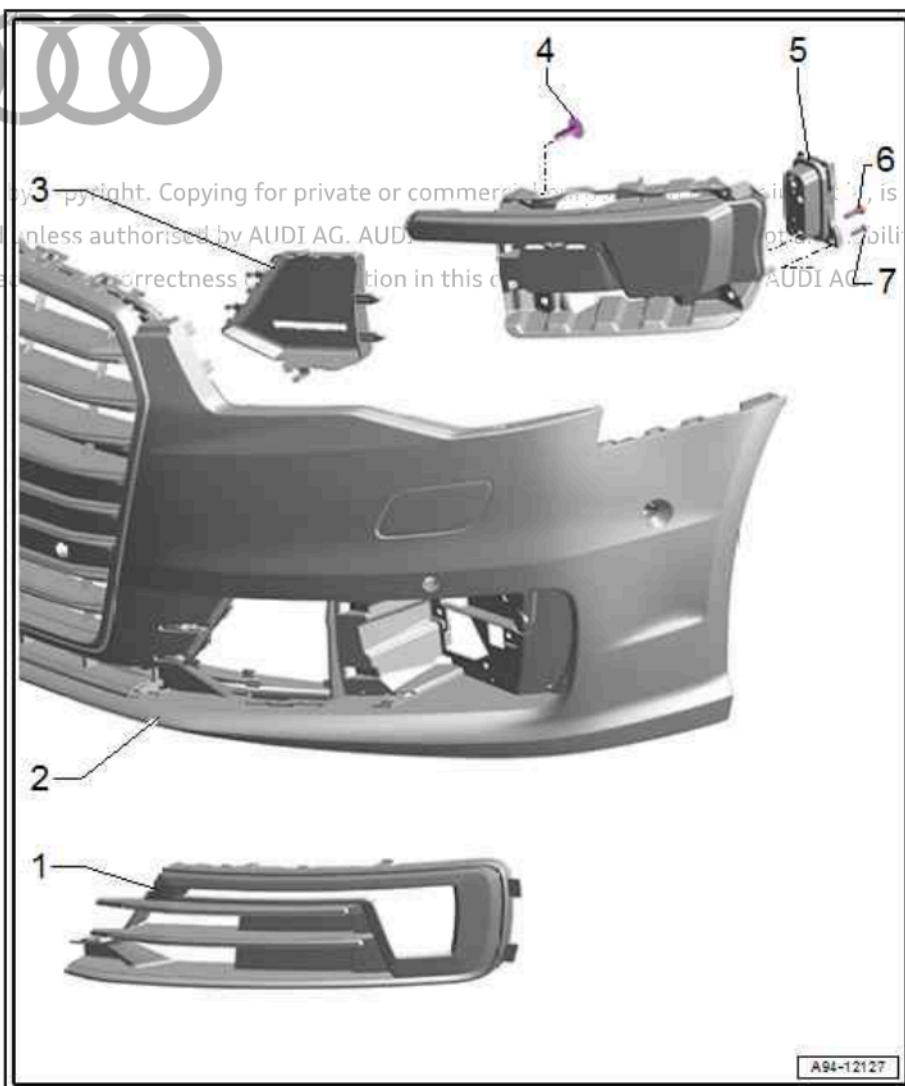
#### 3.3 Exploded view - signature lighting



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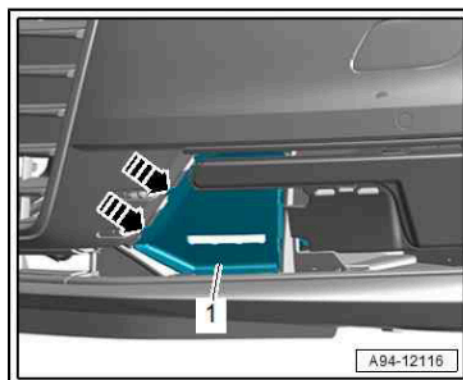
- 1 - Air intake grille
- 2 - Bumper cover
- 3 - Cover
- 4 - Bolt
  - ☐ 5x
  - ☐ 3.5 Nm
- 5 - Light for signature lighting
  - ☐ Light for left signature lighting - L275- , light for right signature lighting - L276-
  - ☐ Removing and installing ⇒ [page 225](#)
- 6 - Bolt
  - ☐ 3x
  - ☐ 1.5 Nm
- 7 - Bolt
  - ☐ With seal; renew if damaged
  - ☐ 3x
  - ☐ 1.5 Nm
- 8 - Signature lighting
  - ☐ Removing and installing ⇒ [page 224](#)



### 3.4 Removing and installing signature lighting

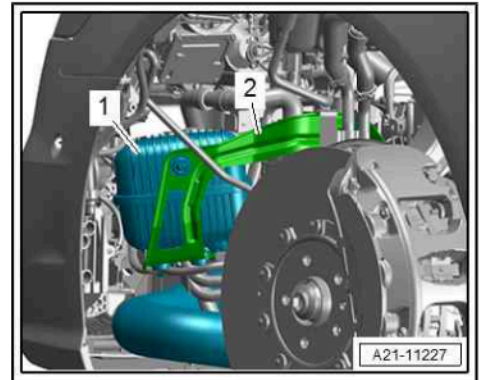
#### Removing

- Remove air intake grille ⇒ General body repairs, exterior; Rep. gr. 63 ; Bumper (front); Exploded view - bumper cover .
- Disengage catches -arrows-.
- Disengage cover -1- from signature lighting and remove.
- Remove wheel housing liner and wheel spoiler ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (front) .





- Left side: Disengage resonator -1- from bracket -2- and push to one side.
- Right side: Detach horn ➔ [page 93](#) .
- Right side: Move electrical wiring harness clear.



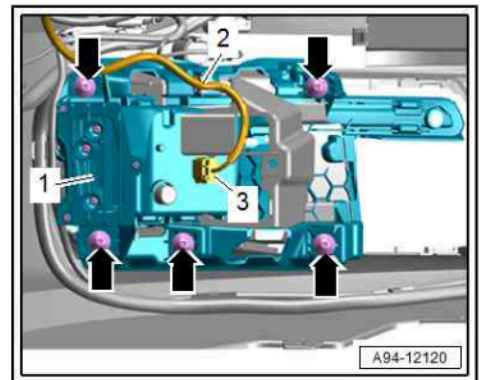
- Remove bolts -arrows-.
- Unplug electrical connector -3- and move wiring harness -2- clear.
- Take out signature lighting -1- towards rear.

#### Installing

Installation is carried out in reverse sequence.

#### Tightening torques

- ♦ ➔ ["3.3 Exploded view - signature lighting", page 223](#)



### 3.5 Removing and installing light for signature lighting -L275- / -L276-

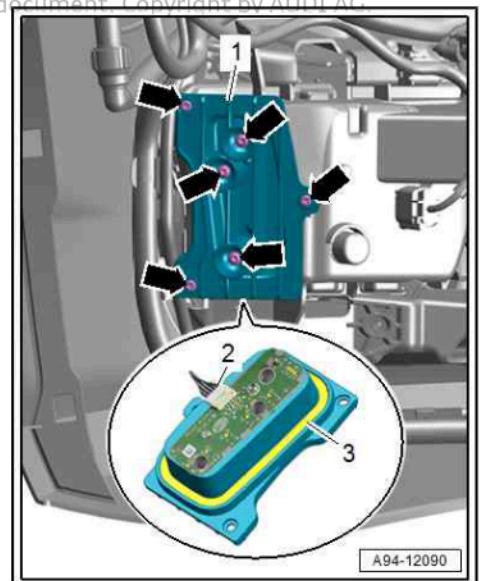
#### Removing

- Remove wheel spoiler and unfasten wheel housing liner ➔ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (front) .
- Remove bolts -arrows-.
- Pull off light for signature lighting -1-.
- Unplug electrical connector -2-.

#### Installing

Installation is carried out in reverse order; note the following:

- Check seal -2- for damage.



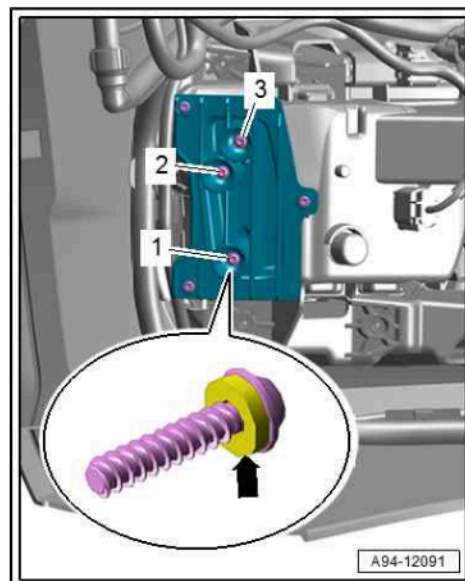




- Check seals -arrow- on bolts -1, 2, 3- for damage.

Tightening torques

- ◆ ⇒ [“3.3 Exploded view - signature lighting”, page 223](#)



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## 4 Lights in exterior mirror

⇒ "4.1 Exploded view - lights in exterior mirror", page 227

⇒ "4.2 Removing and installing exterior mirror turn signal bulb L131 / L132 ", page 228

### 4.1 Exploded view - lights in exterior mirror

1 - Mirror glass

2 - Bolt

□ 2x

□ 0.9 Nm

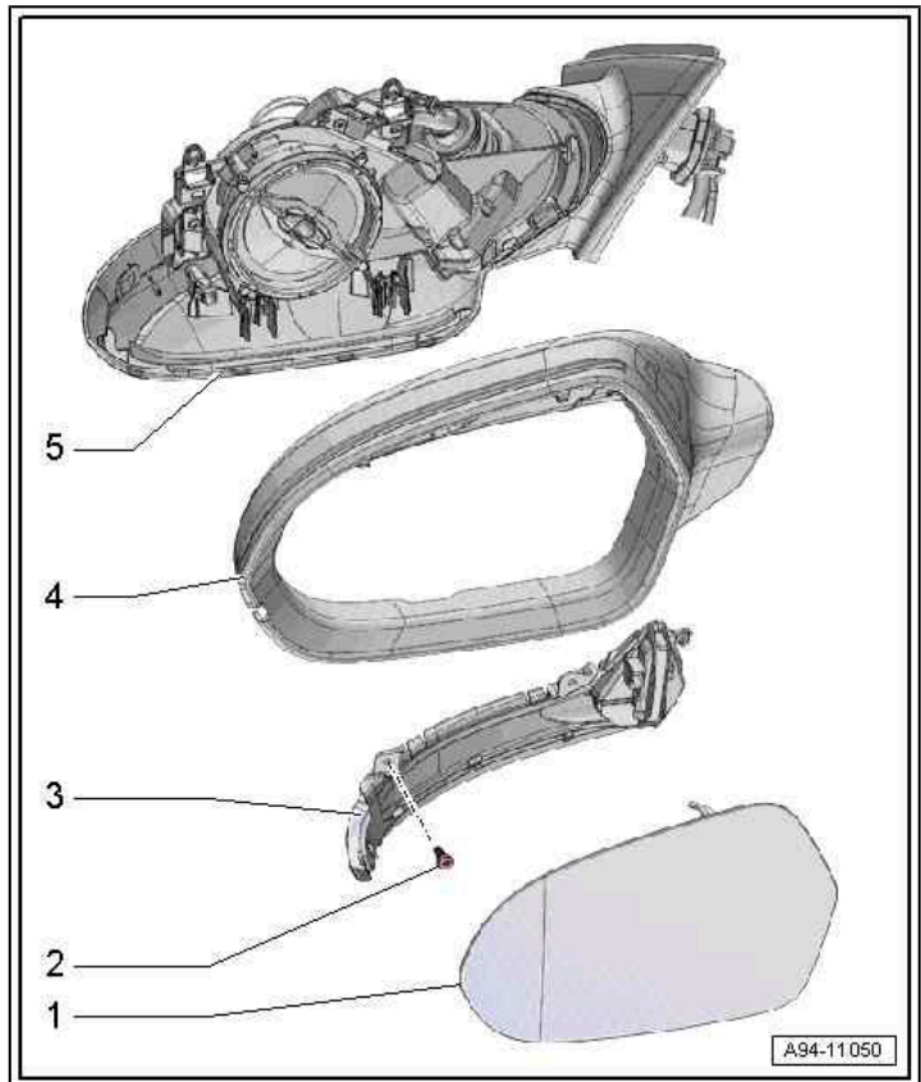
3 - Exterior mirror turn signal bulb

□ Driver side turn signal repeater bulb - L131- , front passenger side turn signal repeater bulb - L132-

□ Removing and installing  
⇒ [page 228](#)

4 - Exterior mirror housing

5 - Mounting for mirror adjustment unit



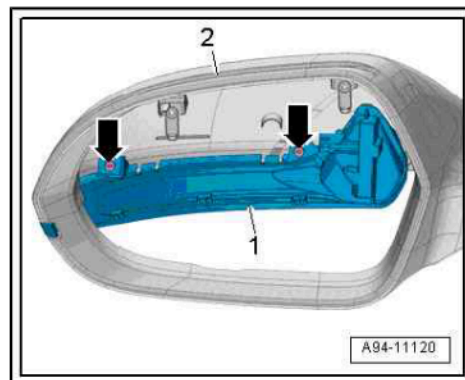
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## 4.2 Removing and installing exterior mirror turn signal bulb -L131- / -L132-

### Removing

- Remove exterior mirror housing ⇒ General body repairs, exterior; Rep. gr. 66 ; Exterior mirrors; Removing and installing cover for mirror .
- Remove bolts -arrows-.
- Take turn signal bulb -1- out of exterior mirror housing -2- from below.



### Installing

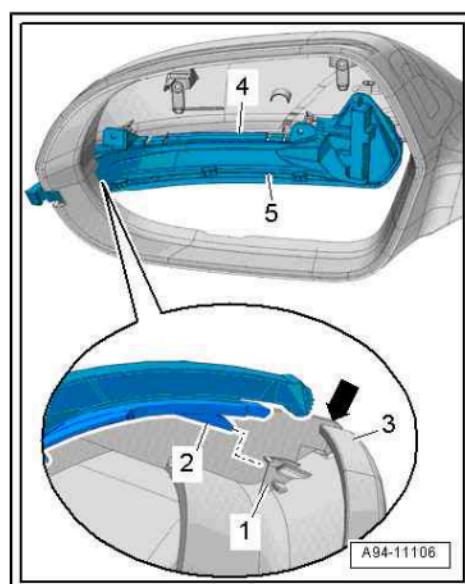
Installation is carried out in reverse order; note the following:



#### Note

*Entire turn signal in exterior mirror must be renewed as a complete unit if an LED is defective.*

- Insert tip of turn signal repeater into slot -arrow- in exterior mirror housing -3-; guide -2- must engage in mounting -1- at the same time.
- Swivel turn signal bulb -5- into rear section of exterior mirror housing and make sure that guide groove engages in guide -4-.



### Tightening torques

- ♦ ⇒ ["4.1 Exploded view - lights in exterior mirror", page 227](#)



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## 5 Lights in exterior door handle

⇒ ["5.1 Exploded view - lights in exterior door handle", page 229](#)

⇒ ["5.2 Removing and installing exterior door handle illumination bulb", page 229](#)

### 5.1 Exploded view - lights in exterior door handle

1 - Exterior door handle illumination bulb

Front exterior door handle

- ☐ Front left exterior door handle illumination bulb - L162-
- ☐ Front right exterior door handle illumination bulb - L163-
- ☐ Removing and installing  
⇒ [page 229](#)

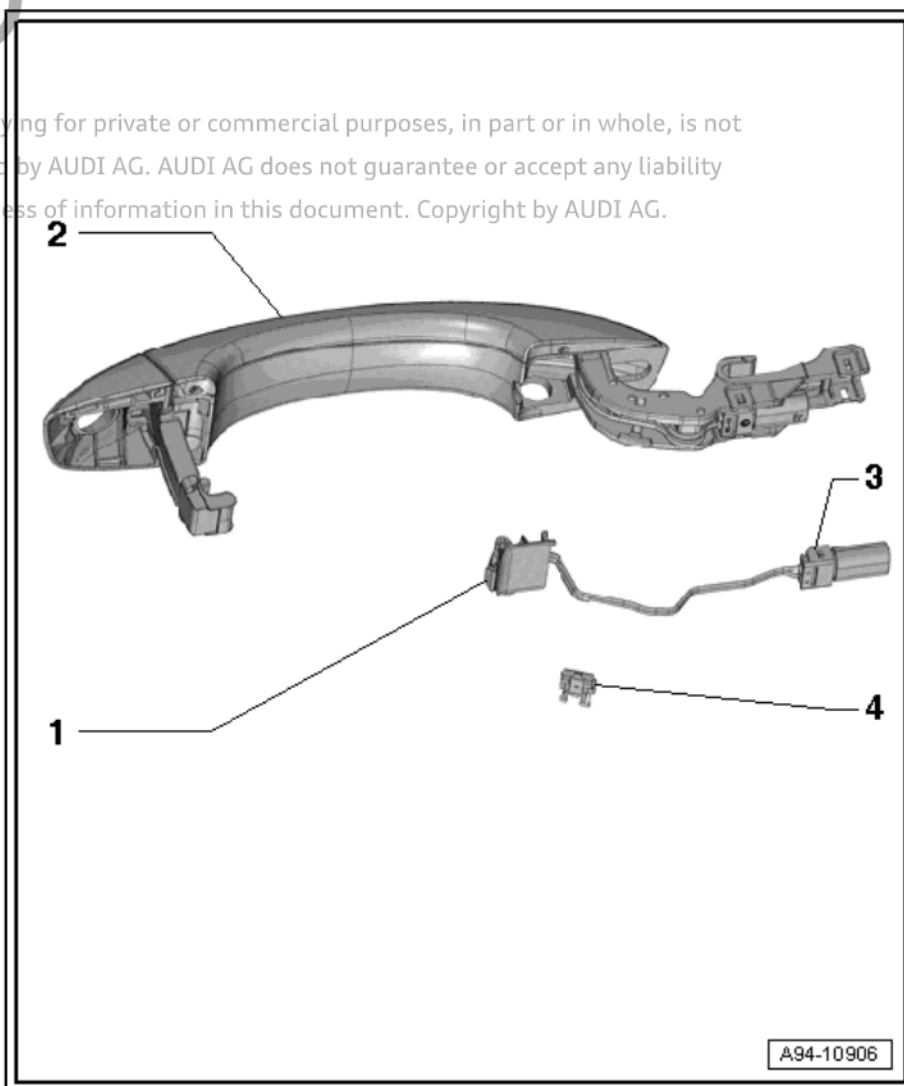
Rear exterior door handle

- ☐ Rear left exterior door handle illumination bulb - L168-
- ☐ Rear right exterior door handle illumination bulb - L169-
- ☐ Removing and installing  
⇒ [page 230](#)

2 - Exterior door handle

3 - Electrical connector

4 - Wiring guide



### 5.2 Removing and installing exterior door handle illumination bulb

⇒ ["5.2.1 Removing and installing front exterior door handle illumination bulb L162 / L163", page 229](#)

⇒ ["5.2.2 Removing and installing rear exterior door handle illumination bulb L168 / L169", page 230](#)

#### 5.2.1 Removing and installing front exterior door handle illumination bulb -L162- / -L163-

Special tools and workshop equipment required



◆ Hook - 3438-



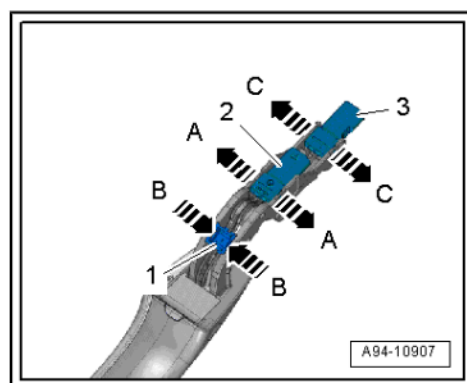
Removing

- Remove exterior door handle ⇒ General body repairs, exterior; Rep. gr. 57 ; Door components; Removing and installing exterior door handle .
- Release retaining tabs -arrows A- and take out electrical connector -2-.
- Use a small screwdriver to carefully release retaining hooks -arrows B- and detach wiring guide -1-.



Note

*If exterior door handle illumination bulb cannot be taken out on vehicles with keyless entry system because of twisted electrical wiring, release retaining tabs -arrows C- and remove electrical connector -3-.*



- Use hook - 3438- to release bulb -1- at exterior door handle -2-.
- Pull bulb out of exterior door handle -arrow-.

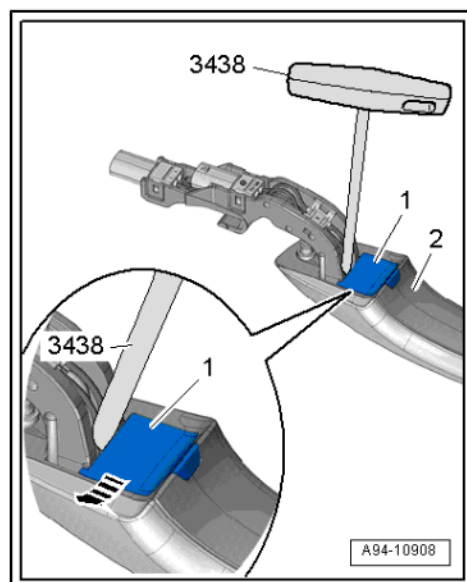
Installing

Installation is carried out in reverse order; note the following:



Note

*Entire exterior door handle illumination bulb must be renewed if LED is defective.*



## 5.2.2 Removing and installing rear exterior door handle illumination bulb -L168- / -L169-

Special tools and workshop equipment required

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◆ Hook - 3438-



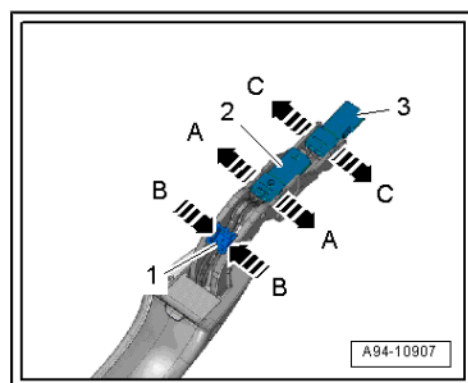
Removing

- Remove exterior door handle ⇒ General body repairs, exterior; Rep. gr. 58 ; Door components; Removing and installing exterior door handle .
- Release retaining tabs -arrows A- and take out electrical connector -2-.
- Use a small screwdriver to carefully release retaining hooks -arrows B- and detach wiring guide -1-.



Note

*If exterior door handle illumination bulb cannot be taken out on vehicles with keyless entry system because of twisted electrical wiring, release retaining tabs -arrows C- and remove electrical connector -3-.*



- Use hook - 3438- to release bulb -1- at exterior door handle -2-.
- Pull bulb out of exterior door handle -arrow-.

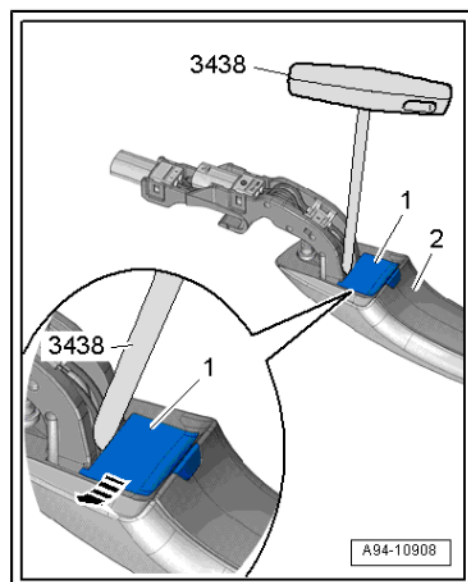
Installing

Installation is carried out in reverse order; note the following:



Note

*Entire exterior door handle illumination bulb must be renewed if LED is defective.*



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## 6 Lights in sill panel trim

⇒ "6.1 Overview - entry lights", page 232

⇒ "6.2 Removing and installing entry light", page 232

### 6.1 Overview - entry lights

1 - Light conductor for front left sill panel moulding background lighting - W67-

- ❑ Removing and installing  
⇒ [page 232](#)

2 - Light conductor for front right sill panel moulding background lighting - W68-

- ❑ Removing and installing  
⇒ [page 232](#)

3 - Light conductor for rear right sill panel moulding background lighting - W70-

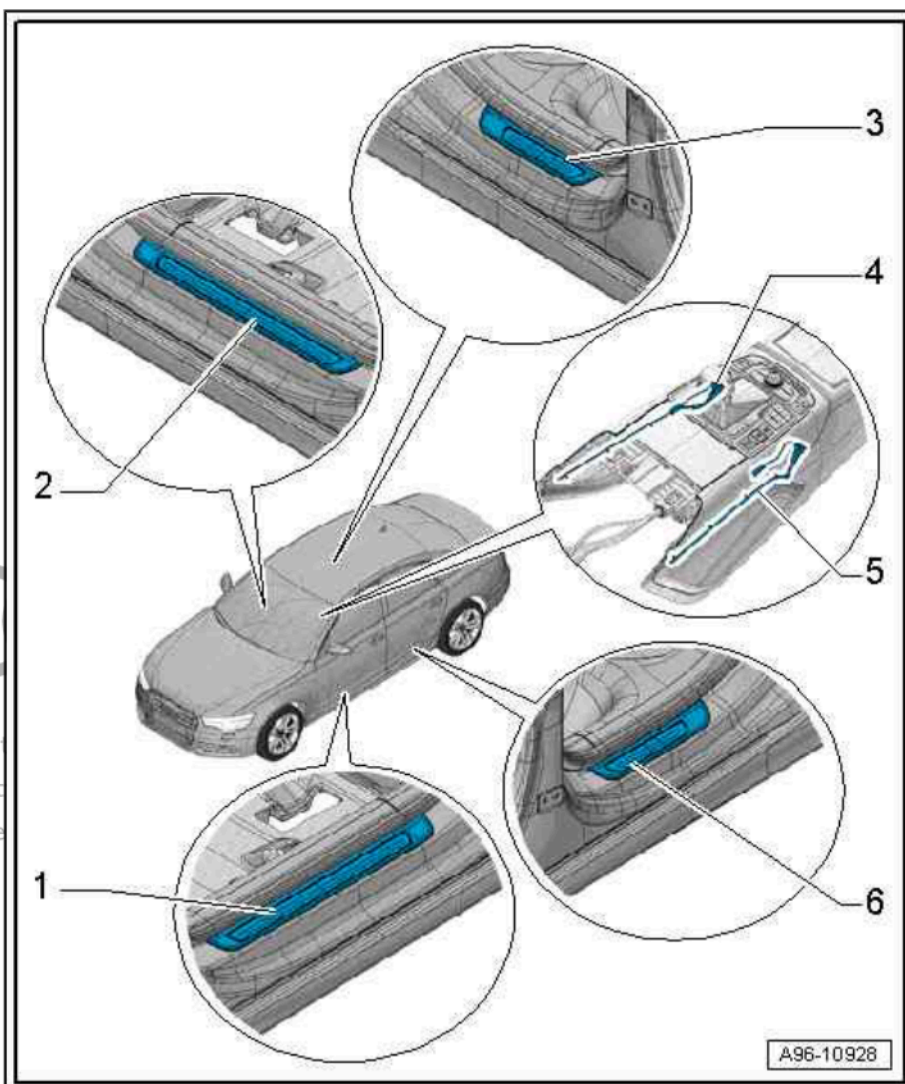
- ❑ Removing and installing  
⇒ [page 233](#)

4 - Bulb for illuminated centre armrest - L157- (right-side)

5 - Bulb for illuminated centre armrest - L157- (left-side)

6 - Light conductor for rear left sill panel moulding background lighting - W69-

- ❑ Removing and installing  
⇒ [page 233](#)



### 6.2 Removing and installing entry light

⇒ "6.2.1 Removing and installing light conductor for front sill panel moulding background lighting W67 / W68 ", page 232

⇒ "6.2.2 Removing and installing light conductor for rear sill panel moulding background lighting W69 / W70 ", page 233

#### 6.2.1 Removing and installing light conductor for front sill panel moulding background lighting -W67- / -W68-

The light conductor for background lighting is integrated in the sill panel moulding and cannot be renewed separately if defective.



- Renew sill panel trim (front) ⇒ General body repairs, interior; Rep. gr. 70 ; Passenger compartment trim panels; Removing and installing sill panel trim .

### 6.2.2 Removing and installing light conductor for rear sill panel moulding background lighting -W69- / -W70-

The light conductor for background lighting is integrated in the sill panel moulding and cannot be renewed separately if defective.

- Renew sill panel trim (rear) ⇒ General body repairs, interior; Rep. gr. 70 ; Passenger compartment trim panels; Removing and installing sill panel trim .



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## 7 Tail light cluster

⇒ ["7.1 Exploded view - tail light cluster on body", page 234](#)

⇒ ["7.2 Exploded view - tail light cluster on rear lid", page 240](#)

⇒ ["7.3 Removing and installing tail light cluster", page 245](#)

⇒ ["7.4 Removing and installing tail light cluster on rear lid",  
page 246](#)

⇒ ["7.5 Removing and installing bulb carrier", page 250](#)

⇒ ["7.6 Correcting installation position of tail light cluster",  
page 252](#)

⇒ ["7.7 Removing and installing rear fog light bulb L46 / L47 ", page  
254](#)

⇒ ["7.8 Removing and installing reversing light bulb", page 254](#)

### 7.1 Exploded view - tail light cluster on body

⇒ ["7.1.1 Exploded view - tail light cluster on body, Saloon", page  
234](#)

⇒ ["7.1.2 Exploded view - tail light cluster on body, LED tail lights  
up to model year 2014 \(Saloon\)", page 236](#)

⇒ ["7.1.3 Exploded view - tail light cluster on body, LED tail lights  
from model year 2015 onwards \(Saloon\)", page 237](#)

⇒ ["7.1.4 Exploded view - tail light cluster on body, Avant",  
page 238](#)

⇒ ["7.1.5 Exploded view - tail light cluster on body, LED tail lights  
\(Avant\)", page 239](#)

#### 7.1.1 Exploded view - tail light cluster on body, Saloon

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1 - Tail light cluster

- ❑ Removing and installing  
⇒ [page 245](#)

2 - Clip nut

3 - Bulb holder

- ❑ Removing and installing  
⇒ [page 250](#)

4 - Brake and tail light bulb 2

- ❑ Left brake and tail light bulb 2 - M58- , right brake and tail light bulb 2 - M59-
- ❑ 12 V, 21 W
- ❑ Renewing bulbs  
⇒ ["7.5.1 Removing and installing bulb holder for tail light cluster - Saloon", page 250](#)

5 - Rear turn signal bulb

- ❑ Rear left turn signal bulb - M6- , rear right turn signal bulb - M8-
- ❑ 12 V, 21 W
- ❑ Renewing bulbs  
⇒ ["7.5.1 Removing and installing bulb holder for tail light cluster - Saloon", page 250](#)

6 - Cover

- ❑ For outer tail light cluster
- ❑ Removing and installing  
⇒ ["7.3.1 Removing and installing tail light cluster - Saloon", page 245](#)

7 - Adjuster nut

- ❑ Adjusting ⇒ [page 252](#)

8 - Bolt

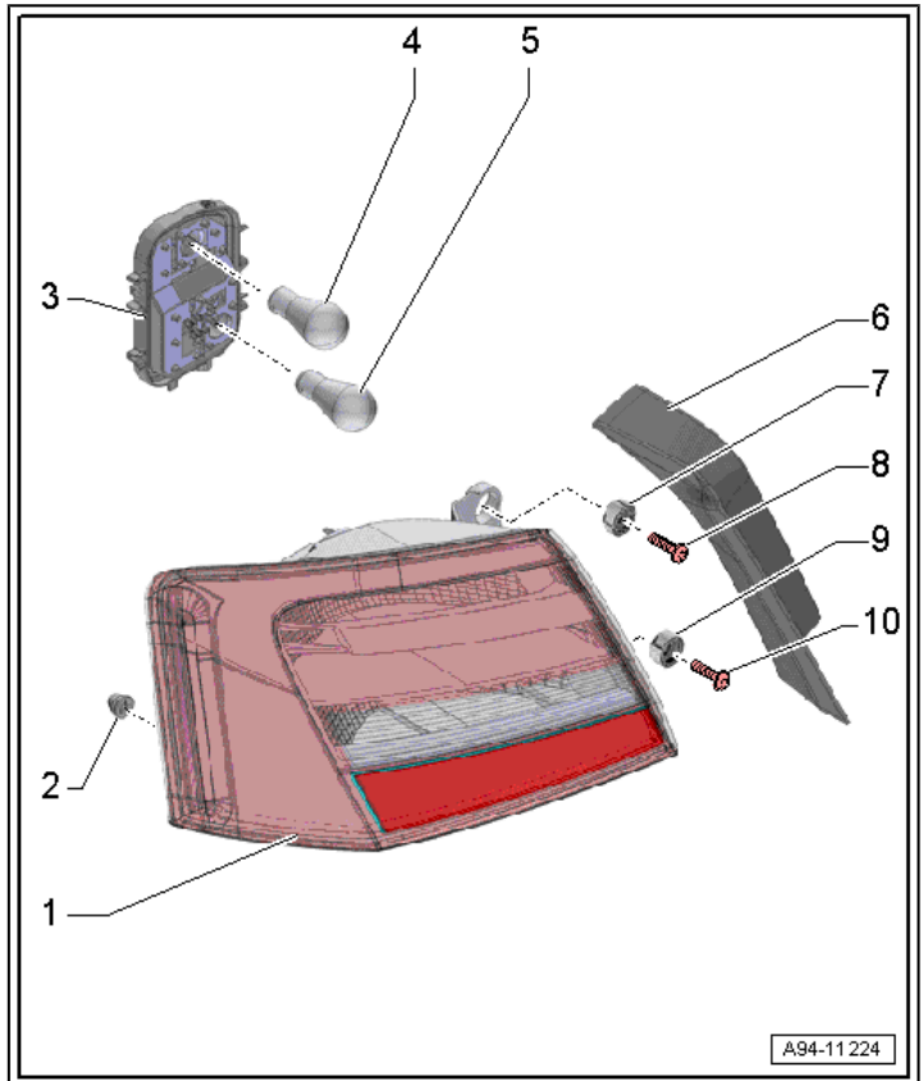
- ❑ 3.5 Nm

9 - Adjuster nut

- ❑ Adjusting ⇒ [page 252](#)

10 - Bolt

- ❑ 3.5 Nm



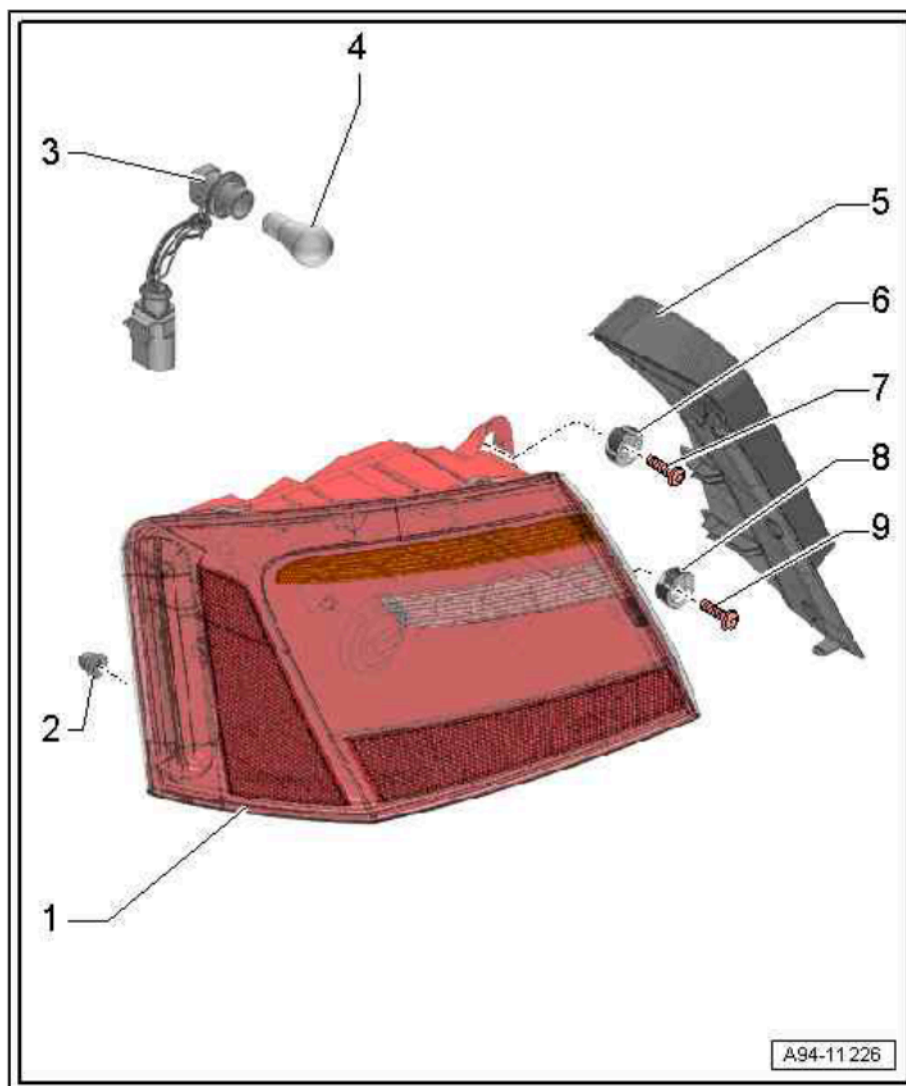
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## 7.1.2 Exploded view - tail light cluster on body, LED tail lights up to model year 2014 (Saloon)

- 1 - Outer tail light cluster
  - ❑ Removing and installing  
⇒ [page 245](#)
- 2 - Clip nut
- 3 - Electrical wiring harness
  - ❑ With bulb holder
- 4 - Reversing light bulb
  - ❑ Left reversing light bulb - M16-
  - ❑ Right reversing light bulb - M17-
  - ❑ 12 V, 16 W
  - ❑ Removing and installing  
⇒ [page 250](#)
- 5 - Cover
  - ❑ For outer tail light cluster
  - ❑ Removing and installing  
⇒ ["7.3.1 Removing and installing tail light cluster - Saloon", page 245](#)
- 6 - Adjuster nut
  - ❑ Adjusting ⇒ [page 252](#)
- 7 - Bolt
  - ❑ 3.5 Nm
- 8 - Adjuster nut
  - ❑ Adjusting ⇒ [page 252](#)
- 9 - Bolt
  - ❑ 3.5 Nm



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### 7.1.3 Exploded view - tail light cluster on body, LED tail lights from model year 2015 onwards (Saloon)

#### 1 - Outer tail light cluster

- ❑ The bulbs (LED lights) are integrated in the tail light cluster. The LED lights cannot be renewed separately; the tail light cluster must be renewed as a complete unit

- ❑ Removing and installing ⇒ [page 245](#)

#### 2 - Clip nut

#### 3 - Cover

- ❑ For outer tail light cluster

- ❑ Removing and installing ⇒ ["7.3.1 Removing and installing tail light cluster - Saloon"](#), [page 245](#)

#### 4 - Adjuster nut

- ❑ Adjusting ⇒ [page 252](#)

#### 5 - Bolt

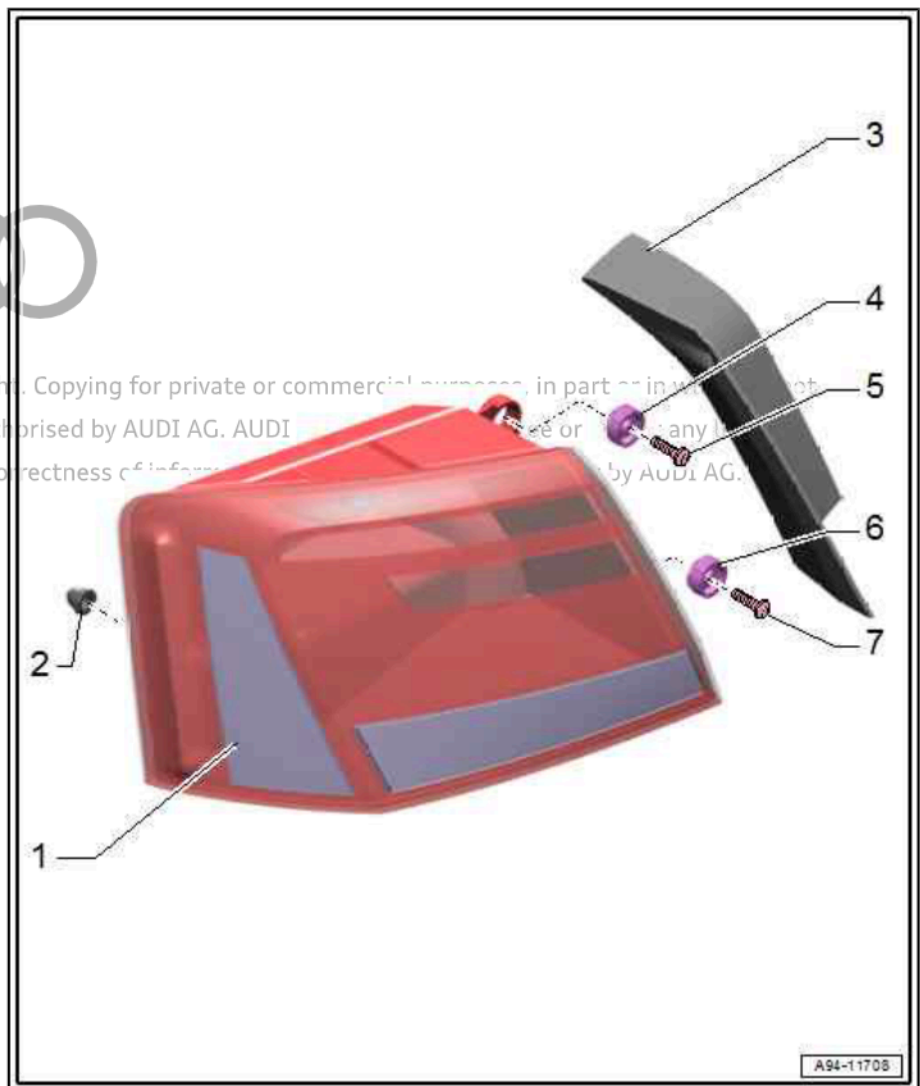
- ❑ 3.5 Nm

#### 6 - Adjuster nut

- ❑ Adjusting ⇒ [page 252](#)

#### 7 - Bolt

- ❑ 3.5 Nm





## 7.1.4 Exploded view - tail light cluster on body, Avant

### 1 - Outer tail light cluster

- ❑ Removing and installing  
⇒ [page 246](#)

### 2 - Clip nut

### 3 - Rear turn signal bulb

- ❑ Rear left turn signal bulb - M6- , rear right turn signal bulb - M8-

- ❑ 12 V, 21 W

- ❑ Renewing bulbs  
⇒ ["7.5.3 Removing and installing bulb holder - Avant"](#), [page 251](#)

### 4 - Brake and tail light bulb

- ❑ Left brake and tail light bulb - M21- , right brake and tail light bulb - M22-

- ❑ 12 V, 21 W

- ❑ Renewing bulbs  
⇒ ["7.5.3 Removing and installing bulb holder - Avant"](#), [page 251](#)

### 5 - Bulb holder

- ❑ Removing and installing  
⇒ [page 251](#)

### 6 - Bolt

- ❑ 3x
- ❑ 1.7 Nm

### 7 - Adjuster nut

- ❑ Adjusting ⇒ [page 253](#)

### 8 - Bolt

- ❑ 3.5 Nm

### 9 - Cover

- ❑ For outer tail light cluster

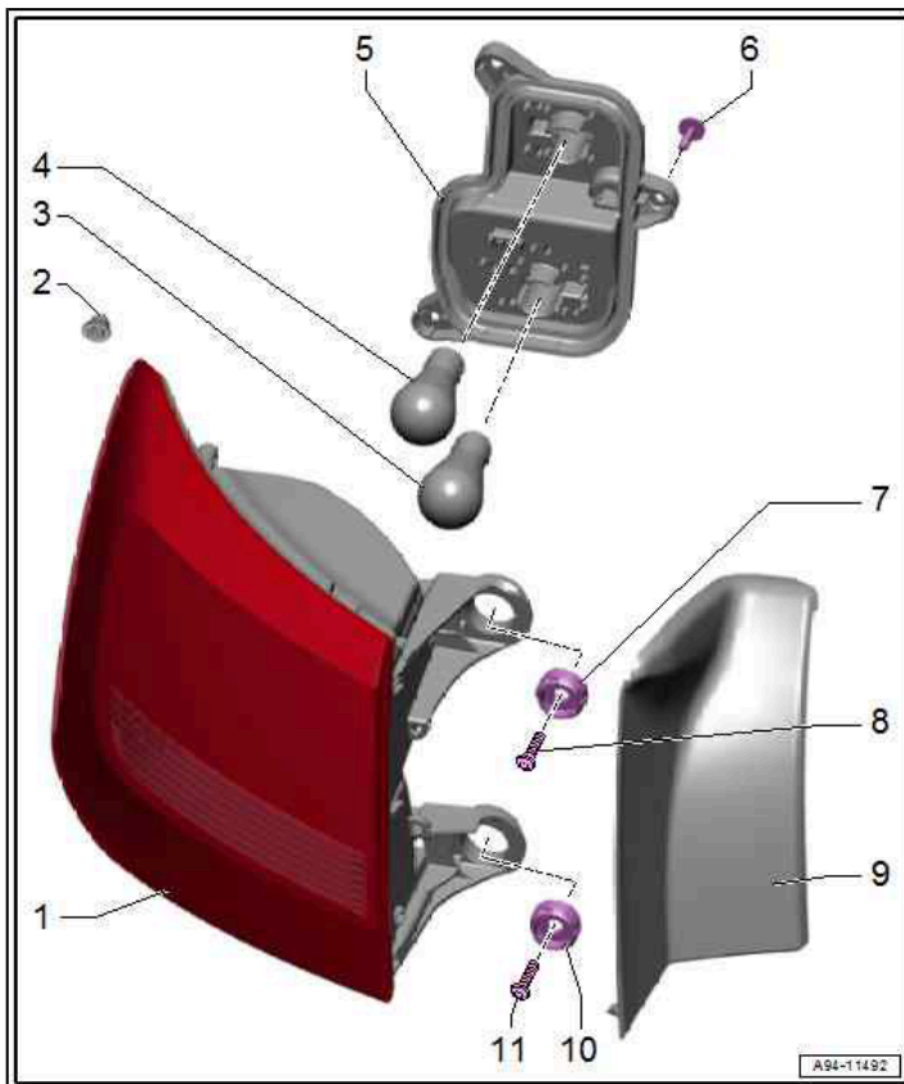
- ❑ Removing and installing ⇒ ["7.3.2 Removing and installing tail light cluster - Avant"](#), [page 246](#)

### 10 - Adjuster nut

- ❑ Adjusting ⇒ [page 253](#)

### 11 - Bolt

- ❑ 3.5 Nm



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### 7.1.5 Exploded view - tail light cluster on body, LED tail lights (Avant)

1 - Outer tail light cluster

- ❑ The bulbs (LED lights) are integrated in the tail light cluster. The LED lights cannot be renewed separately; the tail light cluster must be renewed as a complete unit

- ❑ Removing and installing ⇒ [page 246](#)

2 - Clip nut

3 - Cover

- ❑ For outer tail light cluster
- ❑ Removing and installing ⇒ ["7.3.2 Removing and installing tail light cluster - Avant", page 246](#)

4 - Adjuster nut

- ❑ Adjusting ⇒ [page 253](#)

5 - Bolt

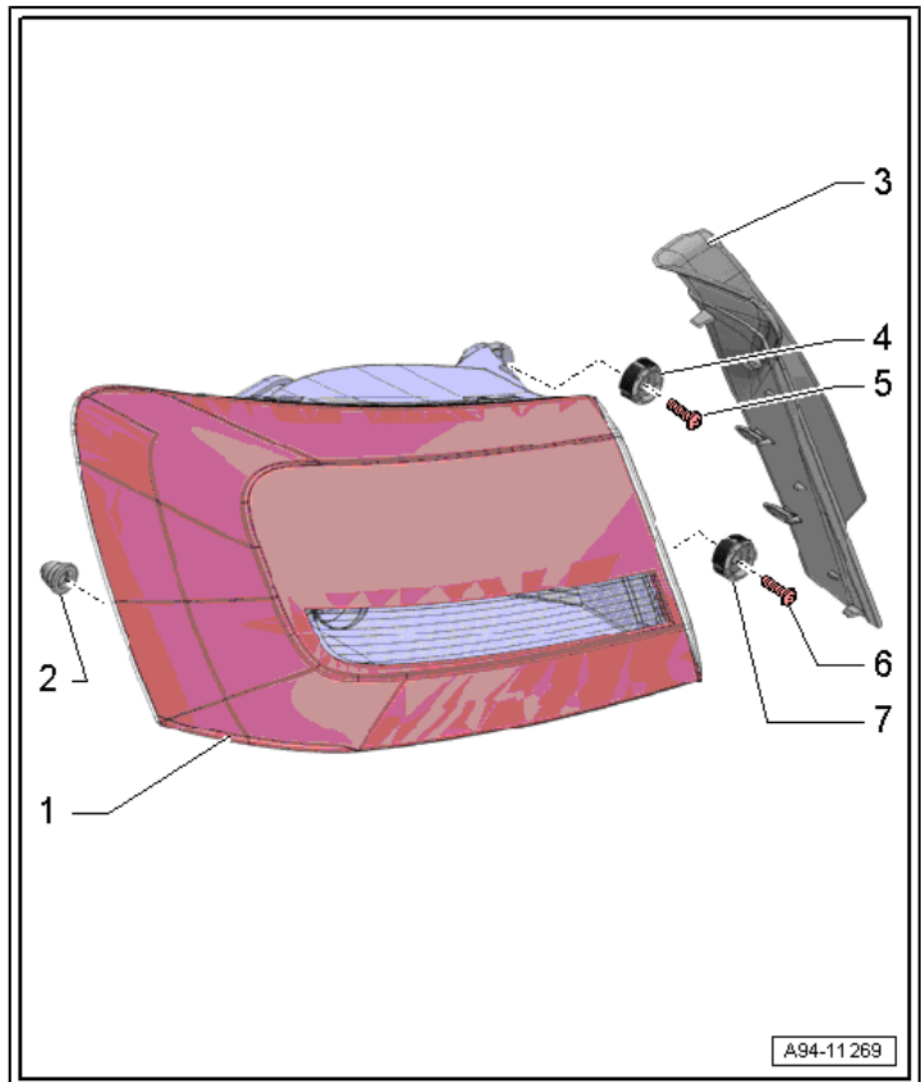
- ❑ 3.5 Nm

6 - Bolt

- ❑ 3.5 Nm

7 - Adjuster nut

- ❑ Adjusting ⇒ [page 253](#)



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## 7.2 Exploded view - tail light cluster on rear lid

⇒ "7.2.1 Exploded view - tail light cluster on rear lid, Saloon", page 240

⇒ "7.2.2 Exploded view - tail light cluster on rear lid, LED tail lights up to model year 2014 (Saloon)", page 241

⇒ "7.2.3 Exploded view - tail light cluster on rear lid, Avant", page 242

⇒ "7.2.4 Exploded view - tail light cluster on rear lid, LED tail lights up to model year 2014 (Avant)", page 243

⇒ "7.2.5 Exploded view - tail light cluster on rear lid, LED tail lights from model year 2015 onwards", page 244

### 7.2.1 Exploded view - tail light cluster on rear lid, Saloon

#### 1 - Inner tail light cluster

- ❑ Removing and installing  
⇒ [page 246](#)

#### 2 - Cover

- ❑ For inner tail light cluster
- ❑ Removing and installing  
⇒ "7.4.1 Removing and installing tail light cluster on rear lid - Saloon",  
[page 246](#)

#### 3 - Seal

- ❑ Self-adhesive
- ❑ Renew if damaged

#### 4 - Reversing light bulb

- ❑ Left reversing light bulb - M16-
- ❑ Right reversing light bulb - M17-
- ❑ 12 V, 16 W (W16W)
- ❑ Renewing bulbs  
⇒ "7.5.4 Removing and installing bulb holder for tail light cluster on rear lid - Saloon", [page 251](#)

#### 5 - Brake and tail light bulb

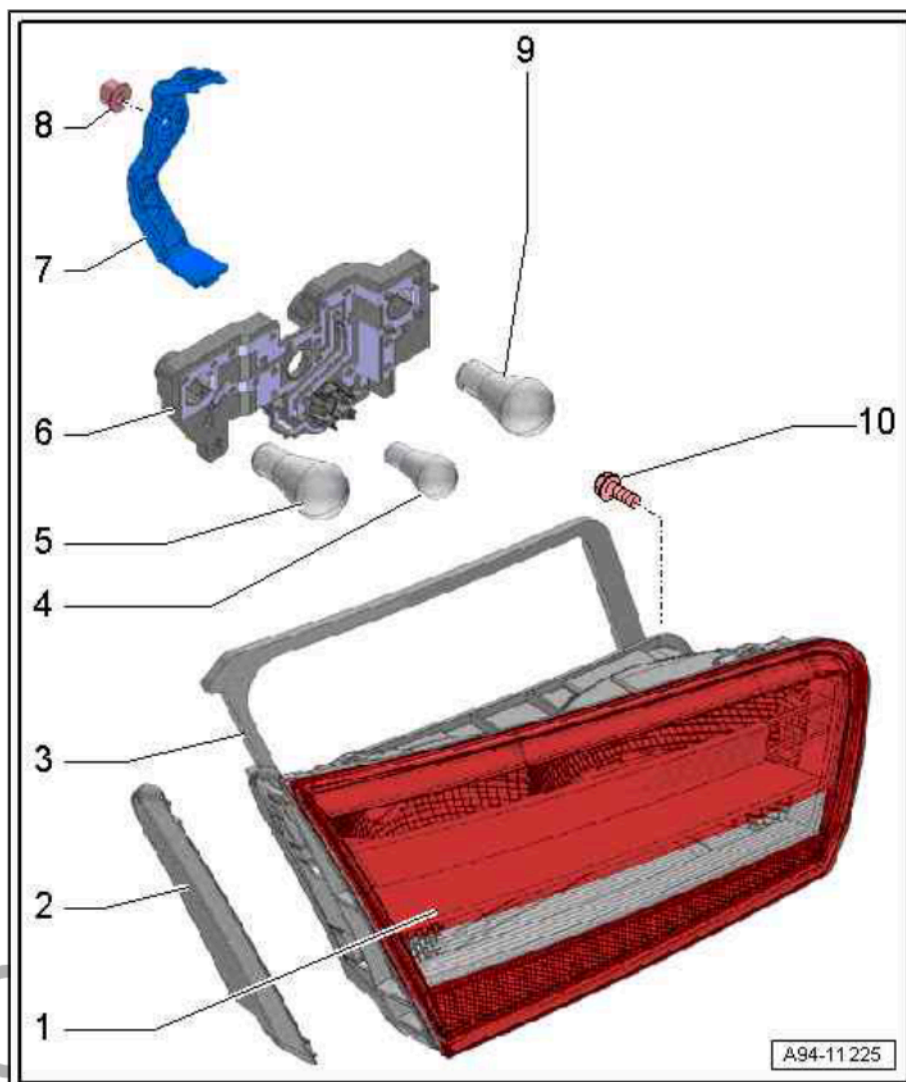
- ❑ Left brake and tail light bulb - M21- , right brake and tail light bulb - M22-
- ❑ 12 V, 21 W
- ❑ Renewing bulbs  
⇒ "7.5.4 Removing and installing bulb holder for tail light cluster on rear lid - Saloon", [page 251](#)

#### 6 - Bulb holder

- ❑ Removing and installing ⇒ [page 251](#)

#### 7 - Retainer bracket

- ❑ Secures tail light cluster to rear lid



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8 - Nut

- ☐ 3.5 Nm

9 - Brake light bulb/tail light and rear fog light bulb

- ☐ Left brake light bulb - M9- , right brake light bulb - M10-
- ☐ Left tail light and rear fog light bulb - M41- , right tail light and rear fog light bulb - M42-
- ☐ 12 V, 21 W
- ☐ Renewing bulbs

⇒ ["7.5.4 Removing and installing bulb holder for tail light cluster on rear lid - Saloon", page 251](#)

10 - Bolt

- ☐ 3.5 Nm

## 7.2.2 Exploded view - tail light cluster on rear lid, LED tail lights up to model year 2014 (Saloon)

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1 - Electrical wiring harness

- ☐ With bulb holder

2 - Inner tail light cluster

- ☐ Removing and installing

⇒ [page 246](#)

3 - Cover

- ☐ For inner tail light cluster
- ☐ Removing and installing

⇒ ["7.4.1 Removing and installing tail light cluster on rear lid - Saloon", page 246](#)

4 - Retainer bracket

- ☐ Secures tail light cluster to rear lid

5 - Nut

- ☐ 3.5 Nm

6 - Bolt

- ☐ 3.5 Nm

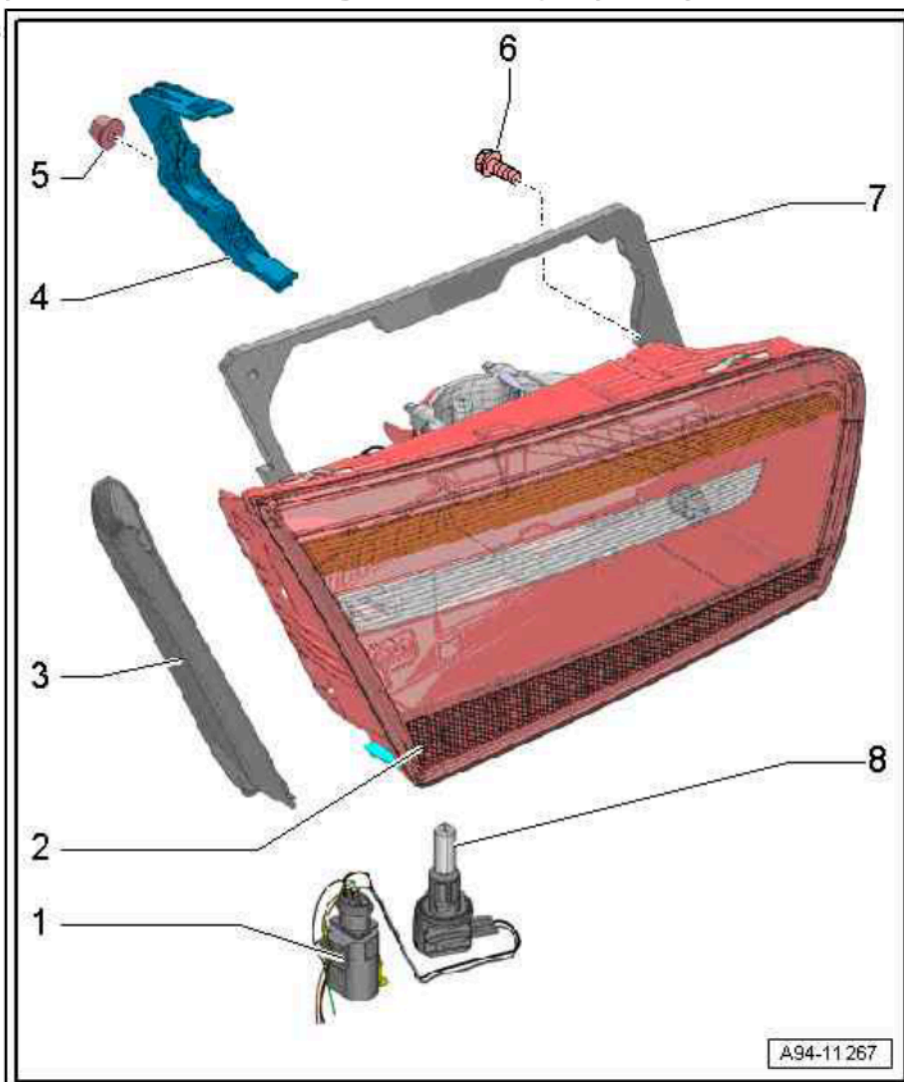
7 - Seal

- ☐ Self-adhesive
- ☐ Renew if damaged

8 - Rear fog light bulb

- ☐ Rear left fog light bulb - L46-
- ☐ Rear right fog light bulb - L47-
- ☐ 12 V, 21 W
- ☐ Renewing bulbs

⇒ [page 254](#)



## 7.2.3 Exploded view - tail light cluster on rear lid, Avant

### 1 - Inner tail light cluster

- ☐ Removing and installing  
⇒ [page 248](#)

### 2 - Cover

- ☐ For inner tail light cluster

### 3 - Seal

- ☐ Self-adhesive
- ☐ Renew if damaged

### 4 - Brake and tail light bulb 2

- ☐ Left brake and tail light bulb 2 - M58- , right brake and tail light bulb 2 - M59-
- ☐ 12 V, 21 W
- ☐ Renewing bulbs  
⇒ ["7.5.5 Removing and installing inner bulb holder for tail light cluster on rear lid - Avant", page 251](#)

### 5 - Bulb holder

- ☐ Removing and installing  
⇒ [page 251](#)

### 6 - Retainer bracket

- ☐ Secures tail light cluster to rear lid

### 7 - Nut

- ☐ 3.5 Nm

### 8 - Brake light bulb/tail light and rear fog light bulb

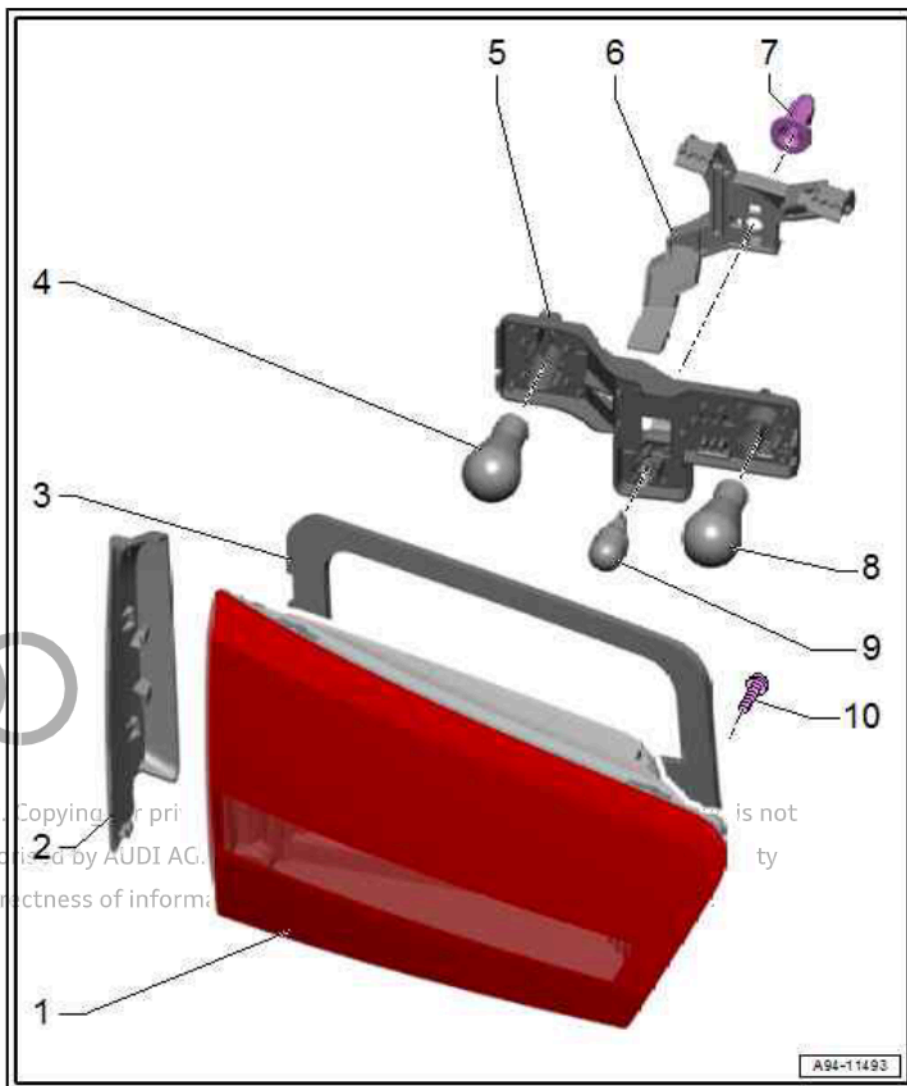
- ☐ Left brake light bulb - M9- , right brake light bulb - M10-
- ☐ Left tail light and rear fog light bulb - M41- , right tail light and rear fog light bulb - M42-
- ☐ 12 V, 21 W
- ☐ Renewing bulbs  
⇒ ["7.5.5 Removing and installing inner bulb holder for tail light cluster on rear lid - Avant", page 251](#)

### 9 - Reversing light bulb

- ☐ Left reversing light bulb - M16-
- ☐ Right reversing light bulb - M17-
- ☐ 12 V, 16 W (W16W)
- ☐ Renewing bulbs  
⇒ ["7.5.5 Removing and installing inner bulb holder for tail light cluster on rear lid - Avant", page 251](#)

### 10 - Bolt

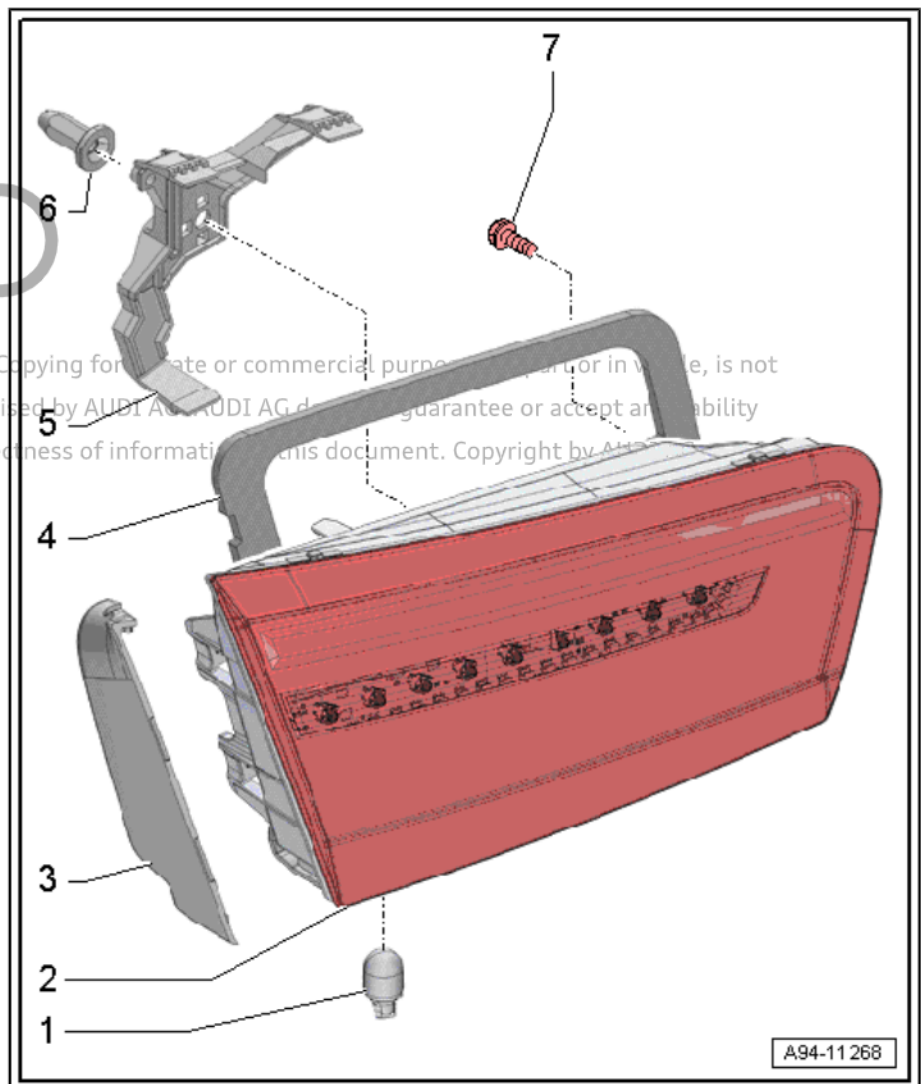
- ☐ 3.5 Nm





## 7.2.4 Exploded view - tail light cluster on rear lid, LED tail lights up to model year 2014 (Avant)

- 1 - Reversing light bulb
  - ☐ Left reversing light bulb - M16-
  - ☐ Right reversing light bulb - M17-
  - ☐ 12 V, 16 W (W16W)
  - ☐ Renewing bulbs  
⇒ [page 254](#)
- 2 - Inner tail light cluster
  - ☐ Removing and installing  
⇒ [page 248](#)
- 3 - Cover
  - ☐ For inner tail light cluster
- 4 - Seal
  - ☐ Self-adhesive
  - ☐ Renew if damaged
- 5 - Retainer bracket
  - ☐ Secures tail light cluster to rear lid
- 6 - Nut
  - ☐ 3.5 Nm
- 7 - Bolt
  - ☐ 3.5 Nm





## 7.2.5 Exploded view - tail light cluster on rear lid, LED tail lights from model year 2015 onwards

### 1 - Inner tail light cluster

- ❑ The bulbs (LED lights) are integrated in the tail light cluster. The LED lights cannot be renewed separately; the tail light cluster must be renewed as a complete unit

- ❑ Removing and installing  
⇒ [page 248](#)

### 2 - Cover

- ❑ For inner tail light cluster

### 3 - Retainer bracket

- ❑ Secures tail light cluster to rear lid

### 4 - Nut

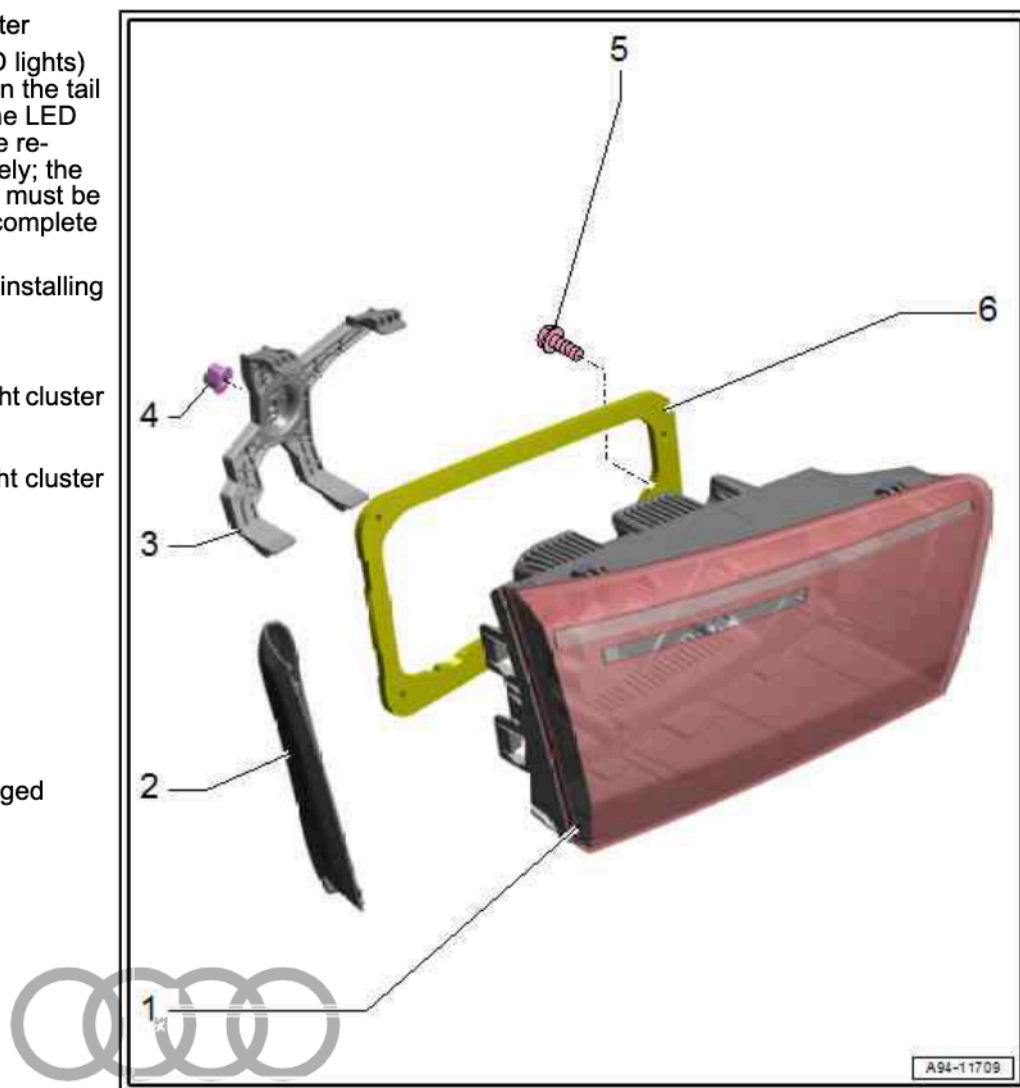
- ❑ 3.5 Nm

### 5 - Bolt

- ❑ 3.5 Nm

### 6 - Seal

- ❑ Self-adhesive
- ❑ Renew if damaged



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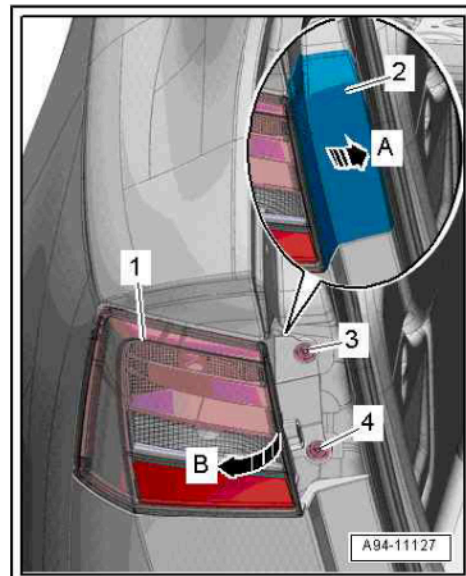
## 7.3 Removing and installing tail light cluster

⇒ ["7.3.1 Removing and installing tail light cluster - Saloon", page 245](#)

⇒ ["7.3.2 Removing and installing tail light cluster - Avant", page 246](#)

### 7.3.1 Removing and installing tail light cluster - Saloon

- Turn light switch to position "0".
- Prise cover -2- off tail light cluster -arrow A- and detach.
- Remove bolts -3- and -4-.
- Swivel tail light cluster -1- outwards -arrow B- and at the same time release retaining pin from clip nut.
- Unplug electrical connector.



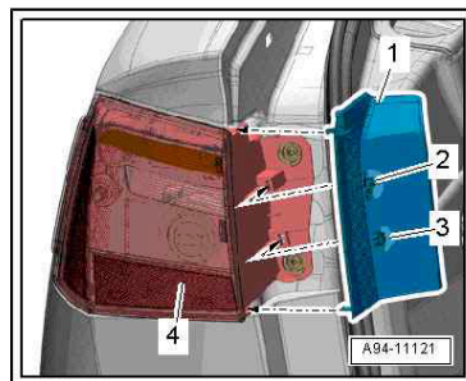
#### Installing

Installation is carried out in reverse order; note the following:

- Position tail light cluster -4- on body and press retaining pin into clip nut.
- Fit centring pins -2, 3- and retaining tabs on cover -1- in mounting and at tail light cluster -arrows-.
- Press cover onto tail light cluster.
- Retaining tabs must engage audibly on tail light cluster.

#### Tightening torques

- ◆ ⇒ ["7.1 Exploded view - tail light cluster on body", page 234](#)



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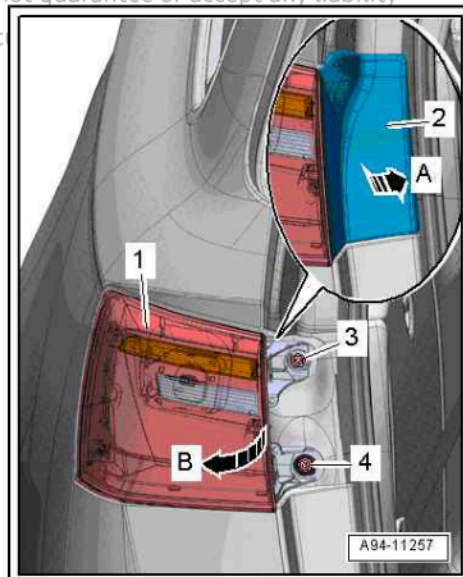




## 7.3.2 Removing and installing tail light cluster - Avant

### Removing

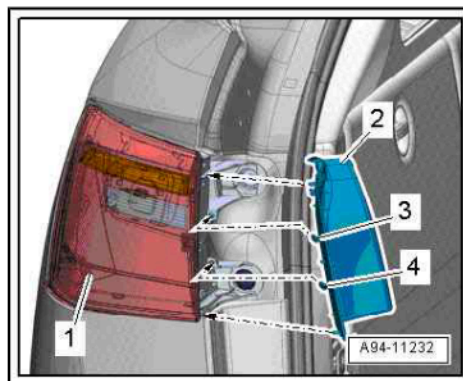
- Turn light switch to position "0".
- Prise cover -2- off tail light cluster -arrow A- and detach.
- Remove bolts -3- and -4-.
- Swivel tail light cluster -1- outwards -arrow B- and at the same time release retaining pin from clip nut.
- Unplug electrical connector.



### Installing

Installation is carried out in reverse order; note the following:

- Position tail light cluster -1- on body and press retaining pin into clip nut.
- Fit centring pins -3, 4- and retaining tabs on cover -2- in mounting and at tail light cluster -arrows-.
- Press cover onto tail light cluster.
- Retaining tabs must engage audibly on tail light cluster.



### Tightening torques

- ♦ ⇒ ["7.1 Exploded view - tail light cluster on body", page 234](#)

## 7.4 Removing and installing tail light cluster on rear lid

⇒ ["7.4.1 Removing and installing tail light cluster on rear lid - Saloon", page 246](#)

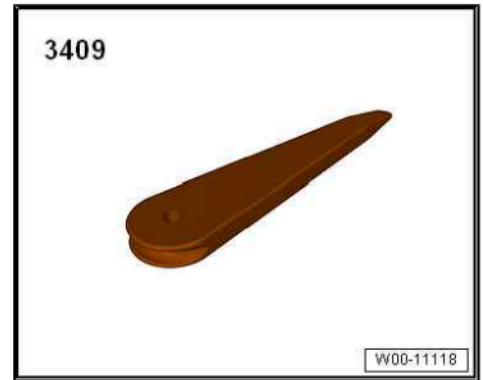
⇒ ["7.4.2 Removing and installing tail light cluster on rear lid - Avant", page 248](#)

### 7.4.1 Removing and installing tail light cluster on rear lid - Saloon

Special tools and workshop equipment required

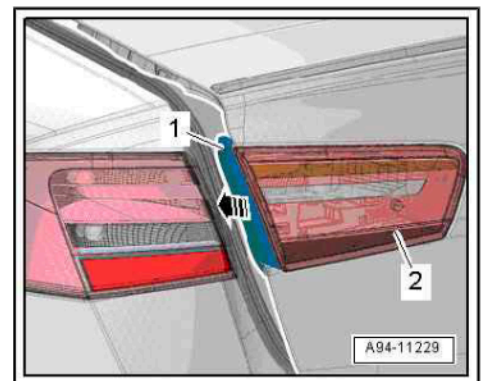


◆ Removal wedge - 3409-



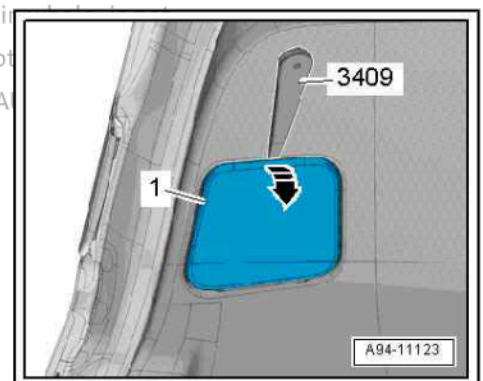
Removing

- Turn light switch to position “0”.
- Detach cover -1- from tail light cluster -2- in direction of -arrow-.



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- Lever off cover -1- with removal wedge -3409- -arrow-.



- Remove bolt -4-.
- Remove nut -2- on retainer bracket -3-.
- Swivel inner tail light cluster -1- slightly outwards -arrow B- and detach from rear lid in direction of -arrow A-.
- Unplug electrical connector.

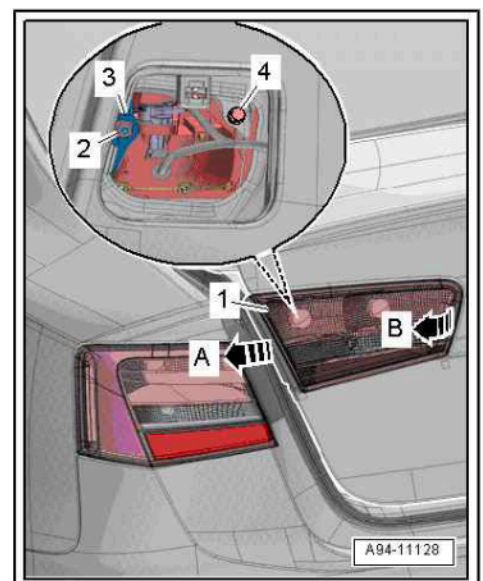
Installing

Installation is carried out in reverse order; note the following:



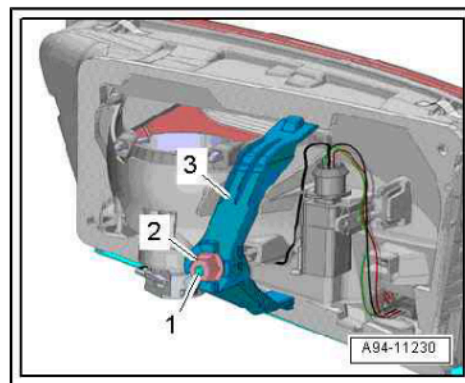
Note

*Ensure that seal between body and tail light housing seals completely.*





- Fit retainer bracket -3- onto stud -1- of inner tail light cluster -4-.
- Screw in nut -2- until stud is flush with nut.



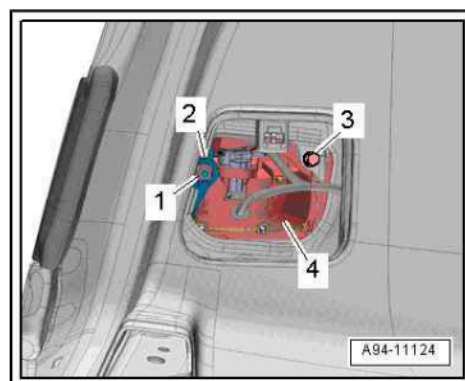
- Position inner tail light cluster -4- at outer edge of rear lid.
- Tighten bolt -3- and nut -1-.



#### Note

*As the nut is tightened the retainer bracket -2- becomes wedged in the rear lid.*

- Press on cover until it engages audibly.



- Fit cover -1- to tail light cluster -2- and press on until it engages audibly.



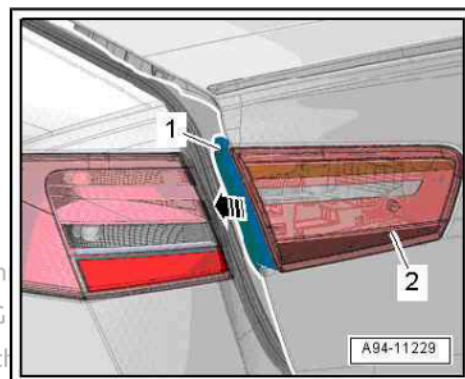
#### Note

*Disregard -arrow-.*



#### Tightening torques

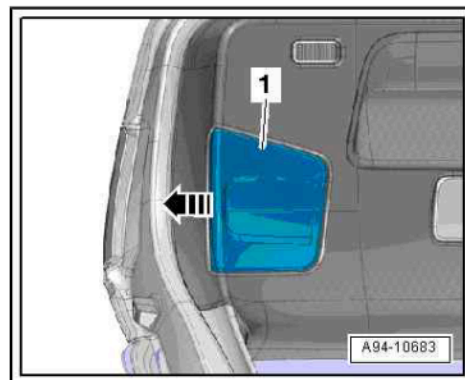
- ♦ ⇒ ["7.2 Exploded view - tail light cluster on rear lid", page 240](#)
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## 7.4.2 Removing and installing tail light cluster on rear lid - Avant

### Removing

- Turn light switch to position "0".
- Remove cover -1- towards outside of vehicle -arrow-.





- Remove bolt -4-.
- Remove nut -2- on retainer bracket -3-.
- Swivel inner tail light cluster -1- slightly outwards -arrow B- and detach from rear lid in direction of -arrow A-.
- Unplug electrical connector.

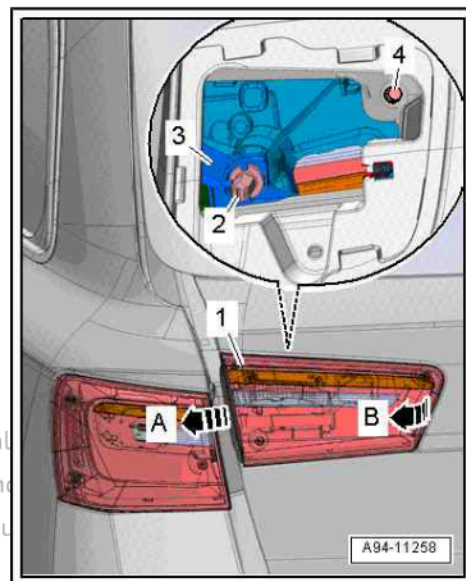
#### Installing

Installation is carried out in reverse order; note the following:

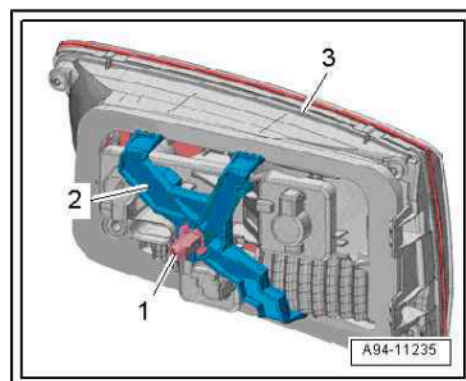


#### Note

- ♦ **Complete inner tail light cluster must be renewed if LED is defective.**
- ♦ **Ensure that seal between body and tail light housing seals completely.**



- Fit retainer bracket -2- onto stud of inner tail light cluster -3-.
- Screw in nut -1- until it makes contact, then unscrew by  $5\frac{1}{2}$  turns.



- Position inner tail light cluster -4- at outer edge of rear lid.
- Tighten bolt -3- and nut -1-.



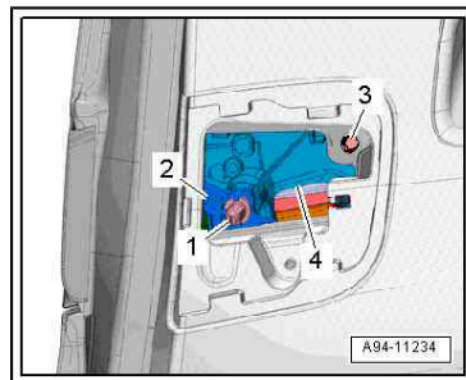
#### Note

*As the nut is tightened the retainer bracket -2- becomes wedged in the rear lid.*

- Press on cover until it engages audibly.

#### Tightening torques

- ♦ ⇒ **"7.2 Exploded view - tail light cluster on rear lid", page 240**







## 7.5 Removing and installing bulb carrier

⇒ ["7.5.1 Removing and installing bulb holder for tail light cluster - Saloon", page 250](#)

⇒ ["7.5.2 Removing and installing bulb holder for LED tail light cluster - Saloon", page 250](#)

⇒ ["7.5.3 Removing and installing bulb holder - Avant", page 251](#)

⇒ ["7.5.4 Removing and installing bulb holder for tail light cluster on rear lid - Saloon", page 251](#)

⇒ ["7.5.5 Removing and installing inner bulb holder for tail light cluster on rear lid - Avant", page 251](#)

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### 7.5.1 Removing and installing bulb holder for tail light cluster - Saloon

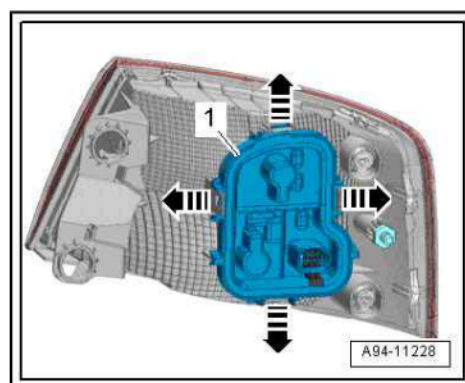
#### Removing

- Remove outer tail light cluster ⇒ [page 245](#) .
- Take bulb holder -1- out of housing by pressing fasteners in direction of -arrow-.
- Screw bulb out of bulb holder.

#### Installing

Installation is carried out in reverse order; note the following:

- Insert new bulb in bulb holder, taking care not to touch glass part of bulb with bare hands.



### 7.5.2 Removing and installing bulb holder for LED tail light cluster - Saloon

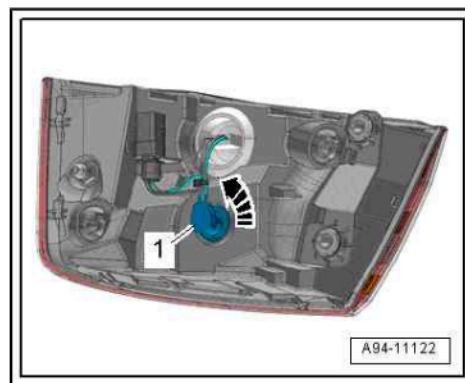
#### Removing

- Remove outer tail light cluster ⇒ [page 245](#) .
- Turn bulb holder -1- anti-clockwise -arrow- and pull it out of housing.
- Screw bulb out of bulb holder.

#### Installing

Installation is carried out in reverse order; note the following:

- Fit new bulb in bulb holder; do not touch glass part of bulb with bare hands.







### 7.5.3 Removing and installing bulb holder - Avant

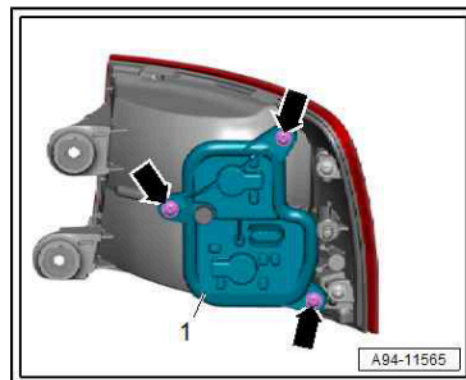
#### Removing

- Remove outer tail light cluster ➔ [page 246](#) .
- Remove bolts -arrows-.
- Take bulb holder -1- out of housing.
- Screw bulb out of bulb holder.

#### Installing

Installation is carried out in reverse order; note the following:

- Insert new bulb in bulb holder, taking care not to touch glass part of bulb with bare hands.



### 7.5.4 Removing and installing bulb holder for tail light cluster on rear lid - Saloon

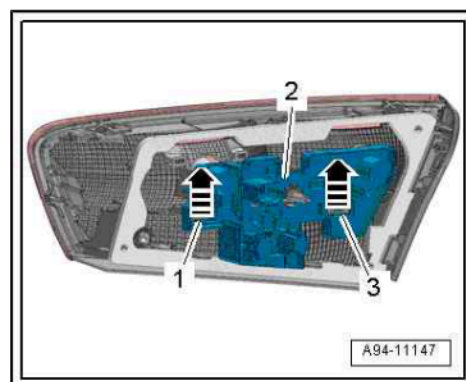
#### Removing

- Remove inner tail light cluster ➔ [page 246](#) .
- Take bulb holder -2- out of housing by pressing retainer brackets -1, 3- in direction of -arrow-.
- Unscrew tail light and rear fog light bulb from bulb holder.
- Pull reversing light bulb out of bulb holder.

#### Installing

Installation is carried out in reverse order; note the following:

- Fit new bulb in bulb holder; do not touch glass part of bulb with bare hands.



### 7.5.5 Removing and installing inner bulb holder for tail light cluster on rear lid - Avant

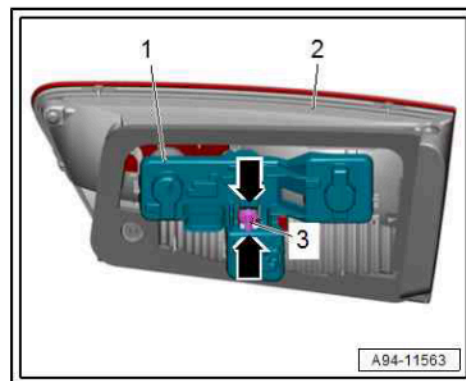
#### Removing

- Remove inner tail light cluster ➔ [page 248](#) .
- Take bulb holder -1- out of housing -2- by pulling fastener -arrows- over threaded pin -3-.
- Unscrew tail light and rear fog light bulb from bulb holder.
- Pull reversing light bulb out of bulb holder.

#### Installing

Installation is carried out in reverse order; note the following:

- Fit new bulb in bulb holder; do not touch glass part of bulb with bare hands.



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## 7.6 Correcting installation position of tail light cluster

⇒ "7.6.1 Aligning tail light cluster on body with body contour - Saloon", page 252

⇒ "7.6.2 Aligning tail light cluster on body with body contour - Avant", page 253

### 7.6.1 Aligning tail light cluster on body with body contour - Saloon

Adjustment in direction of travel:

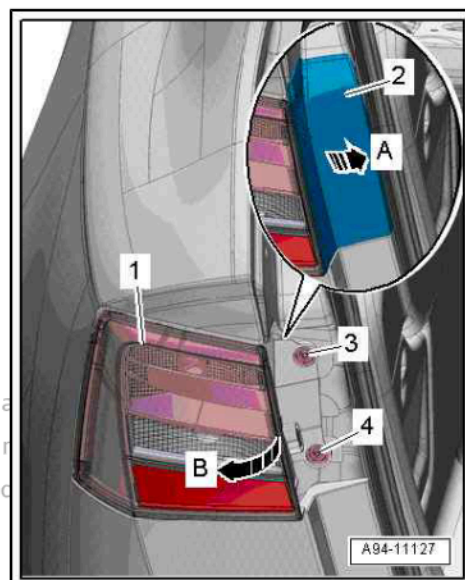
- Turn light switch to position "0".
- Prise cover -2- off tail light cluster -arrow A- and detach.
- Remove bolts -3- and -4-.



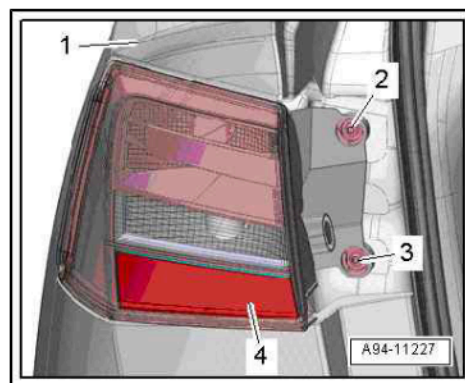
Note

-Item 1- and -arrow B- can be disregarded.

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- Gradually screw adjuster nuts -2, 3- in/out.
- Tail light cluster -4- must be flush with body -1-.





## 7.6.2 Aligning tail light cluster on body with body contour - Avant

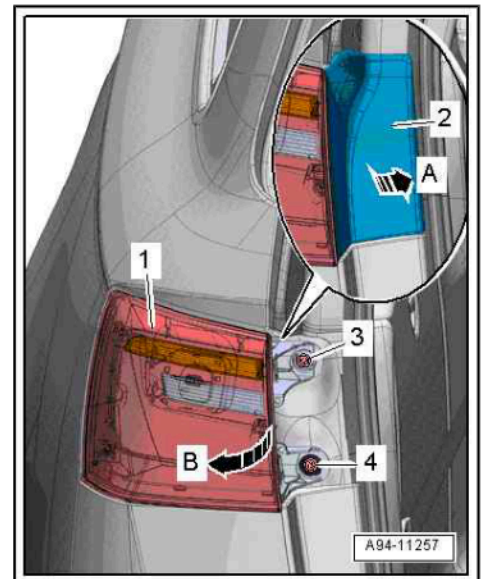
Adjustment in direction of travel:

- Turn light switch to position "0".
- Prise cover -2- off tail light cluster -arrow A- and detach.
- Remove bolts -3- and -4-.

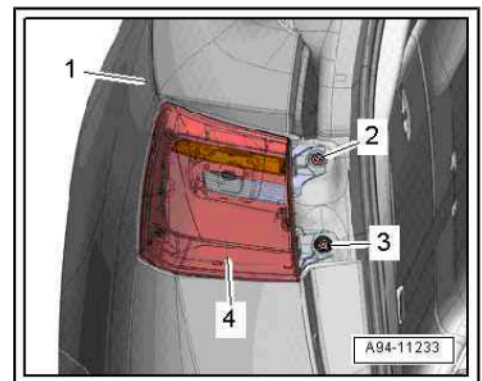


Note

*-Item 1- and -arrow B- can be disregarded.*



- Gradually screw adjuster nuts -2, 3- in/out.
- Tail light cluster -4- must be flush with body -1-.



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## 7.7 Removing and installing rear fog light bulb -L46- / -L47-

⇒ "7.7.1 Removing and installing rear fog light bulb L46 / L47 on LED tail light cluster - Saloon", page 254

### 7.7.1 Removing and installing rear fog light bulb -L46- / -L47- on LED tail light cluster - Saloon

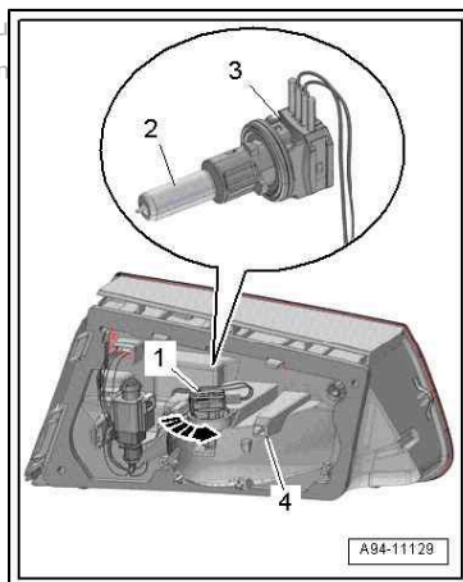
Removing permitted unless authorised by AUDI AG. AUDI AG does not guarantee the correctness of the information in this document.

- Remove inner tail light cluster ⇒ [page 246](#).
- Turn bulb holder -1- anti-clockwise -arrow- and pull it out of housing -4-.
- Unscrew bulb -2- from bulb holder -3-.

#### Installing

Installation is carried out in reverse order; note the following:

- Fit new bulb in bulb holder; do not touch glass part of bulb with bare hands.
- Install inner tail light cluster ⇒ [page 246](#) .



## 7.8 Removing and installing reversing light bulb

⇒ "7.8.1 Removing and installing reversing light bulb M16 / M17 on LED tail light cluster - Avant", page 254

### 7.8.1 Removing and installing reversing light bulb -M16- / -M17- on LED tail light cluster - Avant

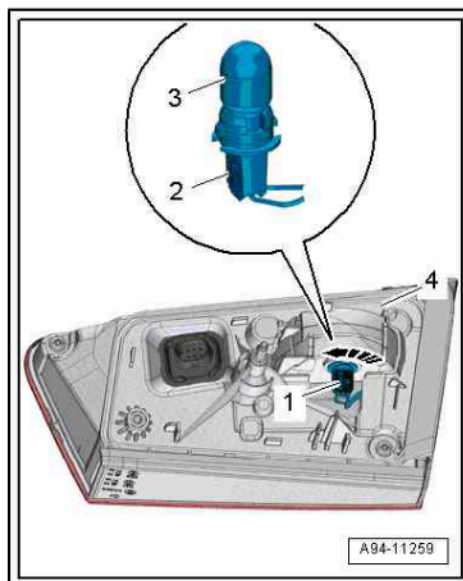
#### Removing

- Remove inner tail light cluster ⇒ [page 248](#) .
- Turn bulb holder -1- anti-clockwise -arrow- and pull it out of housing -4-.
- Unscrew bulb -3- from bulb holder -2-.

#### Installing

Installation is carried out in reverse order; note the following:

- Fit new bulb in bulb holder; do not touch glass part of bulb with bare hands.





## 8 High-level brake light

⇒ "8.1 Exploded view - high-level brake light", page 255

⇒ "8.2 Removing and installing high-level brake light bulb",  
page 257

### 8.1 Exploded view - high-level brake light

⇒ "8.1.1 Exploded view - high-level brake light, Saloon",  
page 255

⇒ "8.1.2 Exploded view - high-level brake light, Avant",  
page 256

#### 8.1.1 Exploded view - high-level brake light, Saloon

1 - Left number plate light

- ❑ Different versions ⇒  
Electronic parts cata-  
logue

- ❑ Exploded view  
⇒ [page 259](#)

2 - Left number plate light - X4-

- ❑ Depending on version

3 - High-level brake light

- ❑ With high-level brake  
light bulb - M25-
- ❑ Removing and installing  
⇒ [page 257](#)

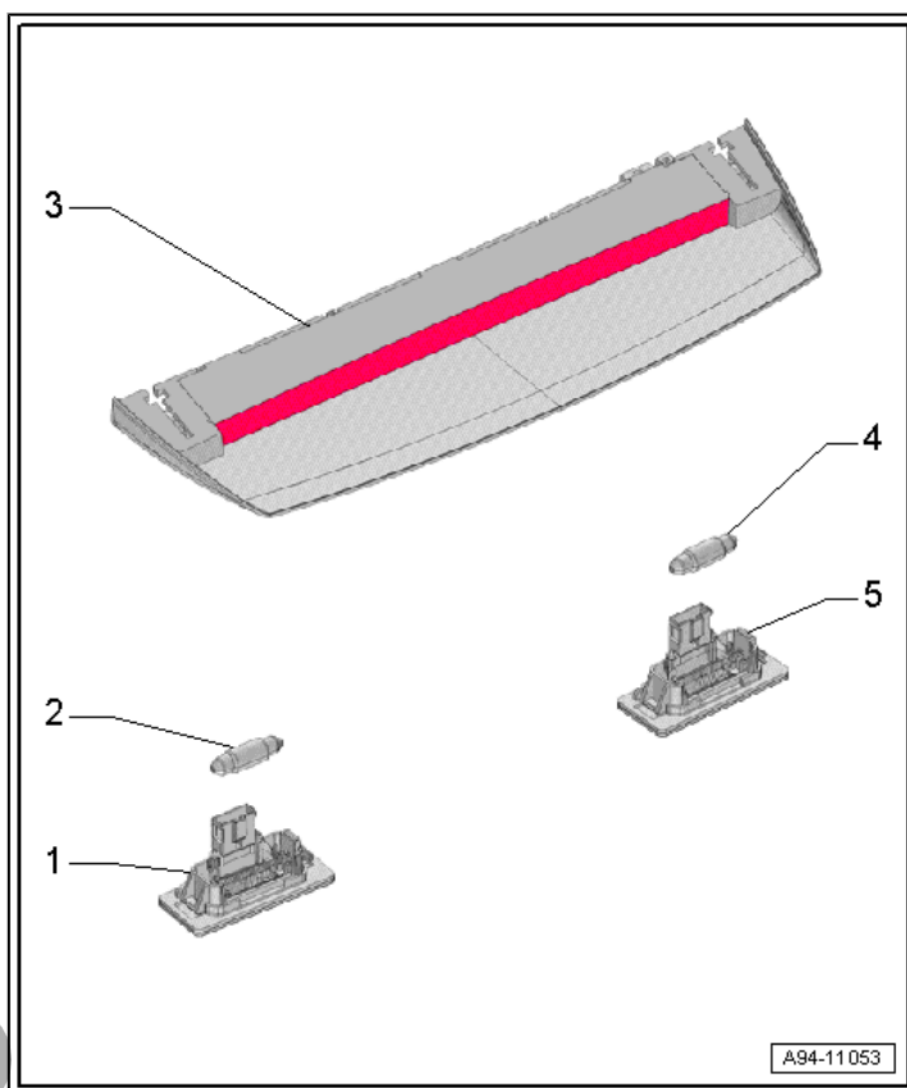
4 - Right number plate light -  
X5-

- ❑ Depending on version

5 - Right number plate light

- ❑ Different versions ⇒  
Electronic parts cata-  
logue

- ❑ Exploded view  
⇒ [page 259](#)



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## 8.1.2 Exploded view - high-level brake light, Avant

### 1 - Left number plate light - X4-

- ❑ Exploded view  
⇒ [page 259](#)

### 2 - Bolt

- ❑ 2.5 Nm

### 3 - High-level brake light

- ❑ With high-level brake light bulb - M25-
- ❑ Removing and installing  
⇒ [page 258](#)

### 4 - Bolt

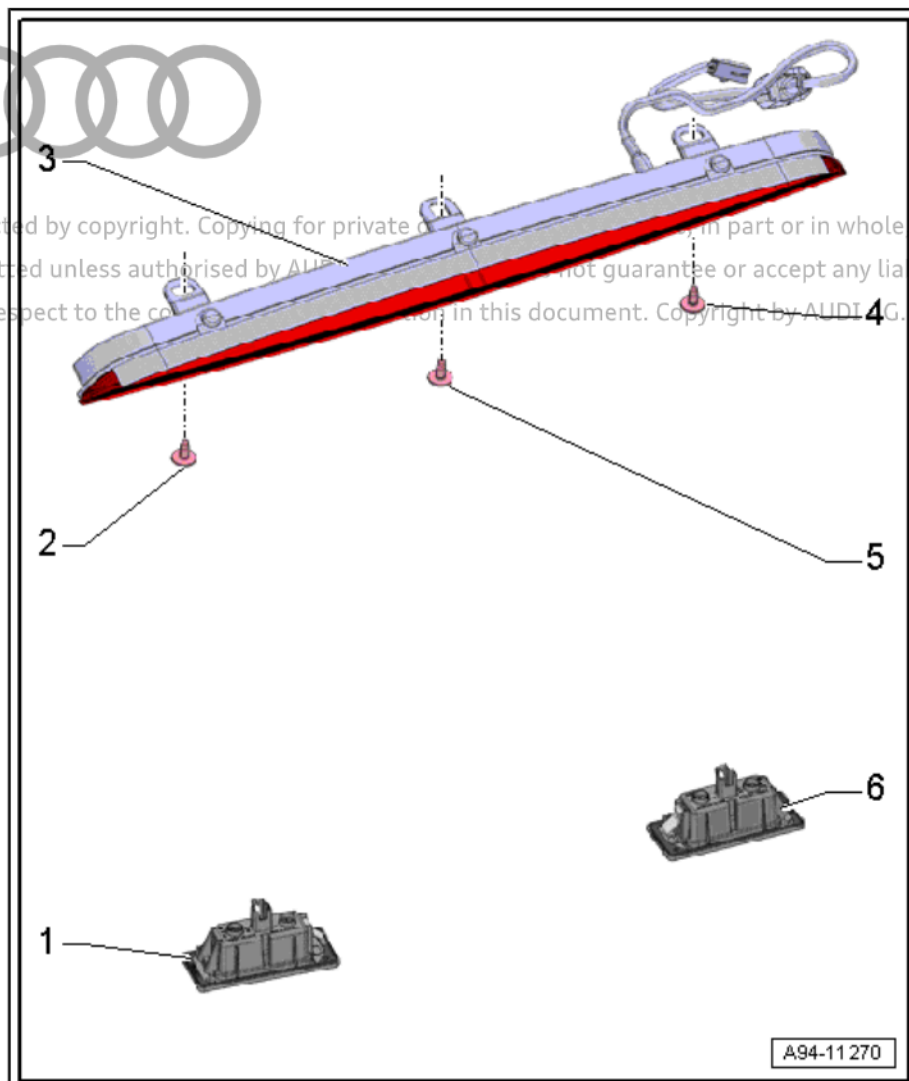
- ❑ 2.5 Nm

### 5 - Bolt

- ❑ 2.5 Nm

### 6 - Right number plate light - X5-

- ❑ Exploded view  
⇒ [page 259](#)





## 8.2 Removing and installing high-level brake light bulb

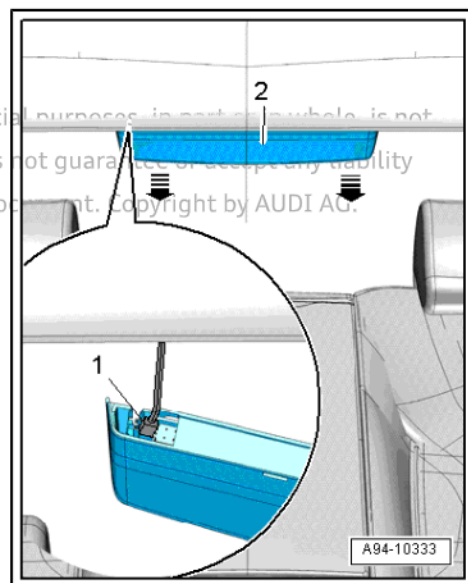
⇒ "8.2.1 Removing and installing high-level brake light bulb M25 - Saloon", page 257

⇒ "8.2.2 Removing and installing high-level brake light bulb M25 - Avant", page 258

### 8.2.1 Removing and installing high-level brake light bulb - M25- - Saloon

#### Removing

- Do not press brake pedal.
- Detach moulded headliner from body in area of high-level brake light ⇒ General body repairs, interior; Rep. gr. 70 ; Roof trim panels; Removing and installing moulded headliner .
- Pull off high-level brake light -2- by moving cover evenly towards rear of vehicle -arrows-
- Unplug electrical connector -1-.



#### Installing

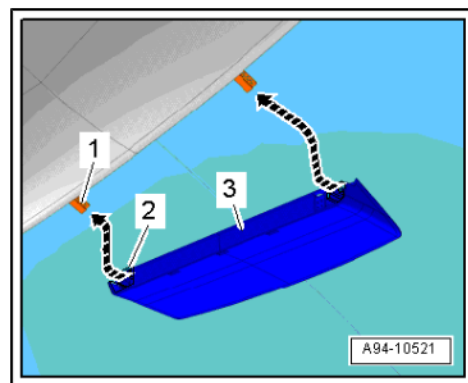
Installation is carried out in reverse order; note the following:



#### Note

*Entire high-level brake light must be renewed if LED is defective.*

- The mounting -2- of the high-level brake light -3- must engage evenly in guide rail -1- on both sides.
- Slide high-level brake light evenly to front in direction of travel until it engages audibly, taking care to keep it straight -arrows-.

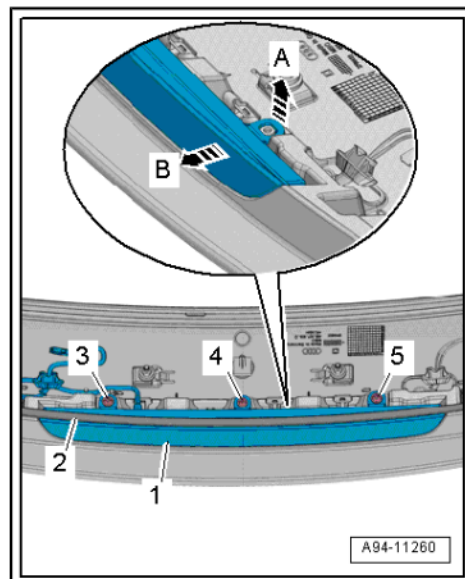




## 8.2.2 Removing and installing high-level brake light bulb - M25- - Avant

### Removing

- Remove roof spoiler ⇒ General body repairs, exterior; Rep. gr. 66 ; Spoilers; Removing and installing spoiler .
- Remove bolts -3, 4, 5-.
- Unfasten seal -2- in vicinity of high-level brake light -1-.
- Lift tabs -arrow A- and simultaneously guide high-level brake light out of roof spoiler -arrow B-.



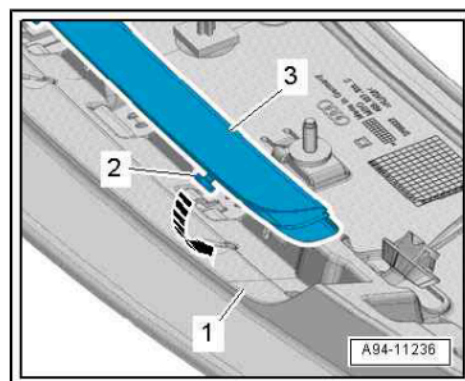
### Installing

Installation is carried out in reverse order; note the following:

- Fit high-level brake light -3- in roof spoiler -1-.
- Guide pin -2- must engage in mounting on roof spoiler -arrow-.
- Press on seal in vicinity of high-level brake light.

### Tightening torques

- ♦ ⇒ ["8.1.2 Exploded view - high-level brake light, Avant", page 256](#)



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## 9 Number plate light

⇒ ["9.1 Overview of fitting locations - number plate light", page 259](#)

⇒ ["9.2 Removing and installing number plate light X4 / X5 ", page 261](#)

### 9.1 Overview of fitting locations - number plate light

⇒ ["9.1.1 Overview of fitting locations - number plate light, Saloon", page 259](#)

⇒ ["9.1.2 Overview of fitting locations - number plate light, Avant", page 260](#)

#### 9.1.1 Overview of fitting locations - number plate light, Saloon

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##### 1 - Left number plate light

- ☐ Different versions ⇒  
Electronic parts catalogue
- ☐ Removing and installing  
⇒ [page 261](#)

##### 2 - Left number plate light - X4-

- ☐ Depending on version
- ☐ 12 V, 5 W
- ☐ Renewing bulbs  
⇒ [page 261](#)

##### 3 - High-level brake light

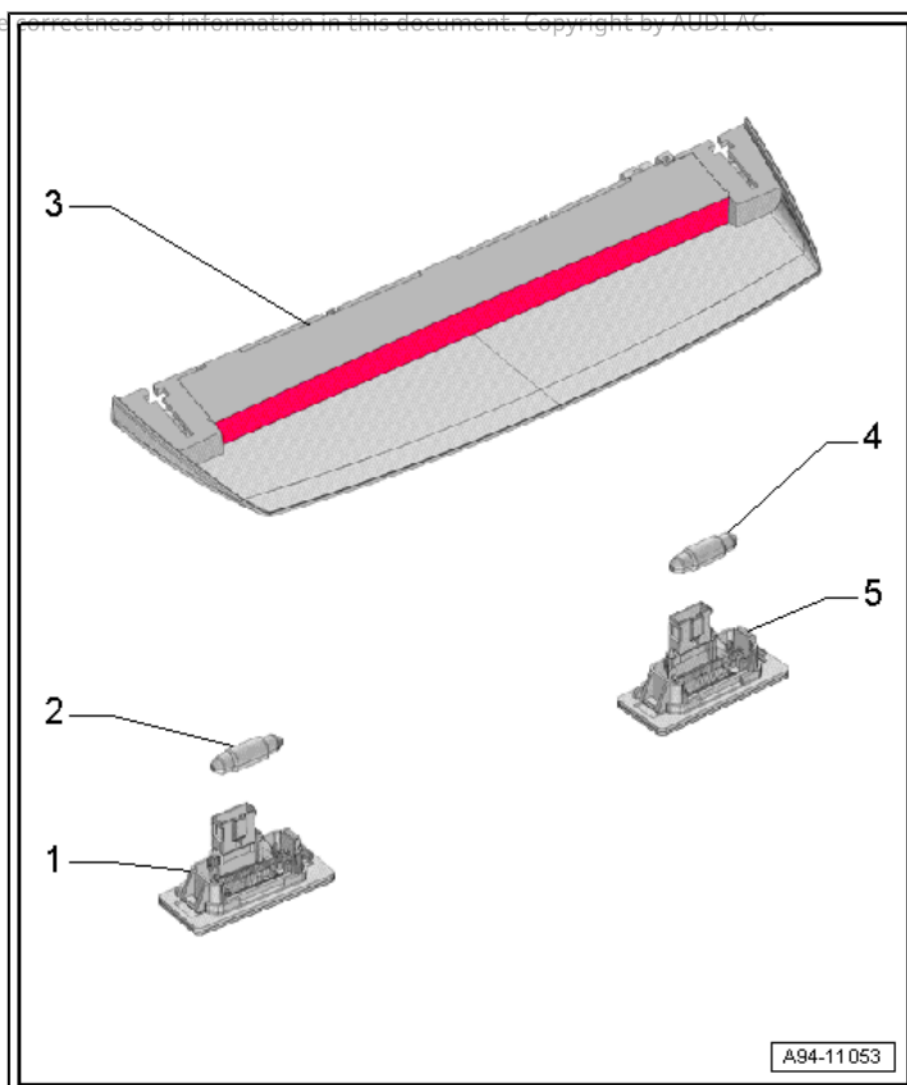
- ☐ With high-level brake  
light bulb - M25-

##### 4 - Right number plate light - X5-

- ☐ Depending on version
- ☐ 12 V, 5 W
- ☐ Renewing bulbs  
⇒ [page 261](#)

##### 5 - Right number plate light

- ☐ Different versions ⇒  
Electronic parts catalogue
- ☐ Removing and installing  
⇒ [page 261](#)





## 9.1.2 Overview of fitting locations - number plate light, Avant

1 - Left number plate light - X4-

❑ Removing and installing  
⇒ [page 261](#)

2 - Bolt

3 - High-level brake light

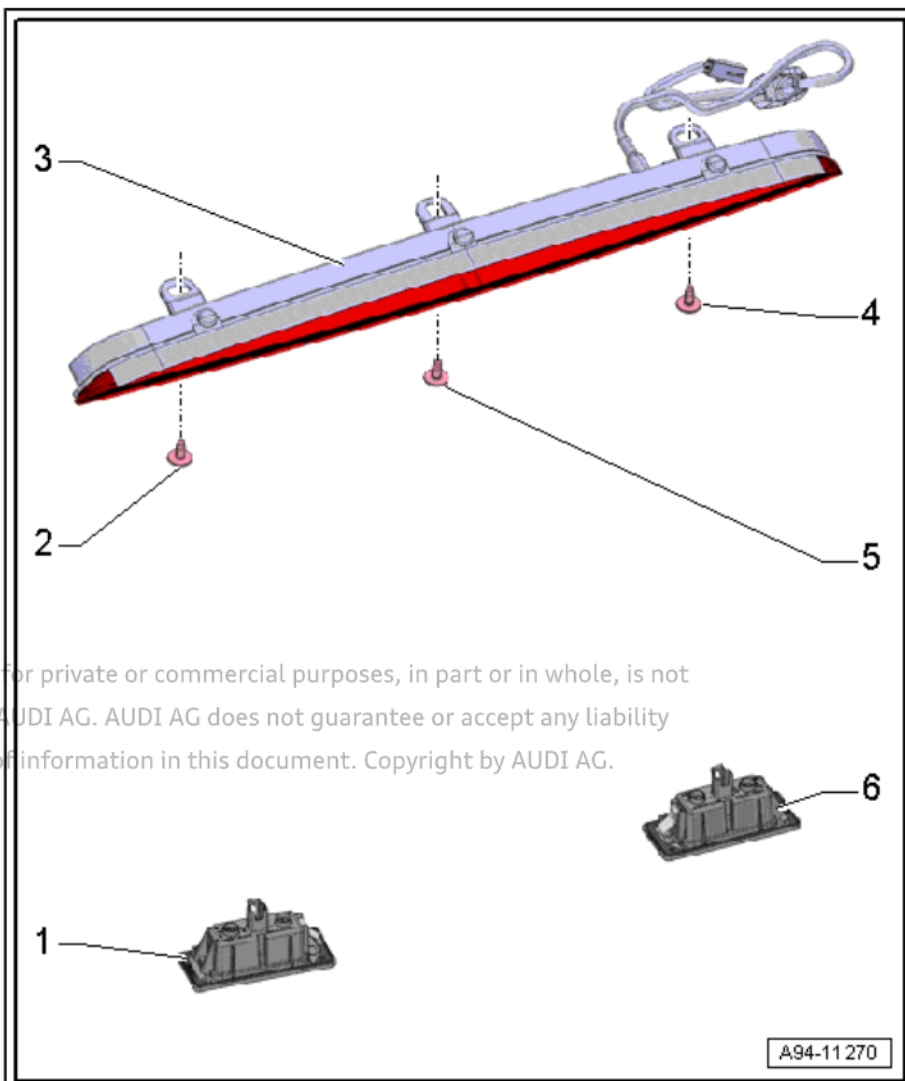
❑ With high-level brake  
light bulb - M25-

4 - Bolt

5 - Bolt

6 - Right number plate light -  
X5-

❑ Removing and installing  
⇒ [page 261](#)



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## 9.2 Removing and installing number plate light - X4- / -X5-

### Removing

- Turn light switch to position "0".
- Take number plate light -2- out of attachment for rear lid; to do so, apply a screwdriver -1- at slot and push in direction of -arrow-.
- Vehicles without LED bulb: Take bulb -3- out of clamp-type holder.

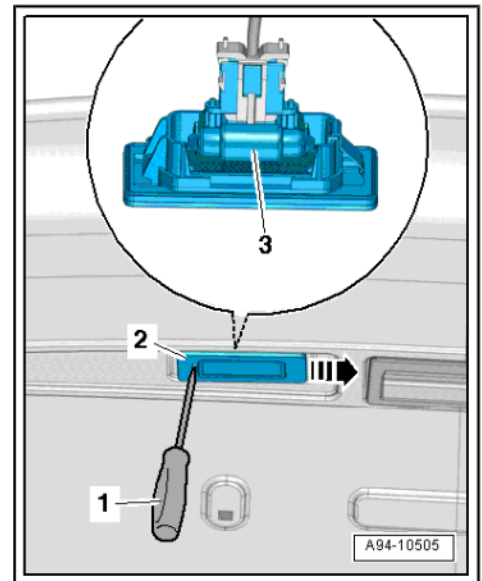
### Installing

Installation is carried out in reverse order; note the following:



#### Note

*Number plate light must be renewed as a complete unit if LED is defective.*



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## 10 Entry and start authorisation

⇒ ["10.1 Overview of fitting locations - entry and start authorisation system", page 262](#)

⇒ ["10.2 Overview of fitting locations - keyless entry system", page 265](#)

⇒ ["10.3 Exploded view - exterior door handle for keyless entry system", page 269](#)

⇒ ["10.4 Exploded view - rear lid power opening senders", page 270](#)

⇒ ["10.5 Removing and installing front exterior door handle switches", page 270](#)

⇒ ["10.6 Removing and installing rear exterior door handle switches", page 271](#)

⇒ ["10.7 Removing and installing aerial for entry and start system", page 273](#)

⇒ ["10.8 Removing and installing rear lid power opening control unit J938 ", page 275](#)

⇒ ["10.9 Removing and installing rear lid power opening senders G750 / G760 ", page 276](#)

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### 10.1 Overview of fitting locations - entry and start authorisation system

⇒ ["10.1.1 Overview of fitting locations - entry and start authorisation system, Saloon", page 262](#)

⇒ ["10.1.2 Overview of fitting locations - entry and start authorisation system, Avant", page 264](#)

#### 10.1.1 Overview of fitting locations - entry and start authorisation system, Saloon



1 - Electronic steering column lock control unit - J764-

- ❑ Removing and installing  
⇒ Running gear, axles, steering; Rep. gr. 48 ; Steering column; Removing and installing control unit for electronic steering column lock - J764-

2 - Steering column

3 - Convenience system central control unit - J393-

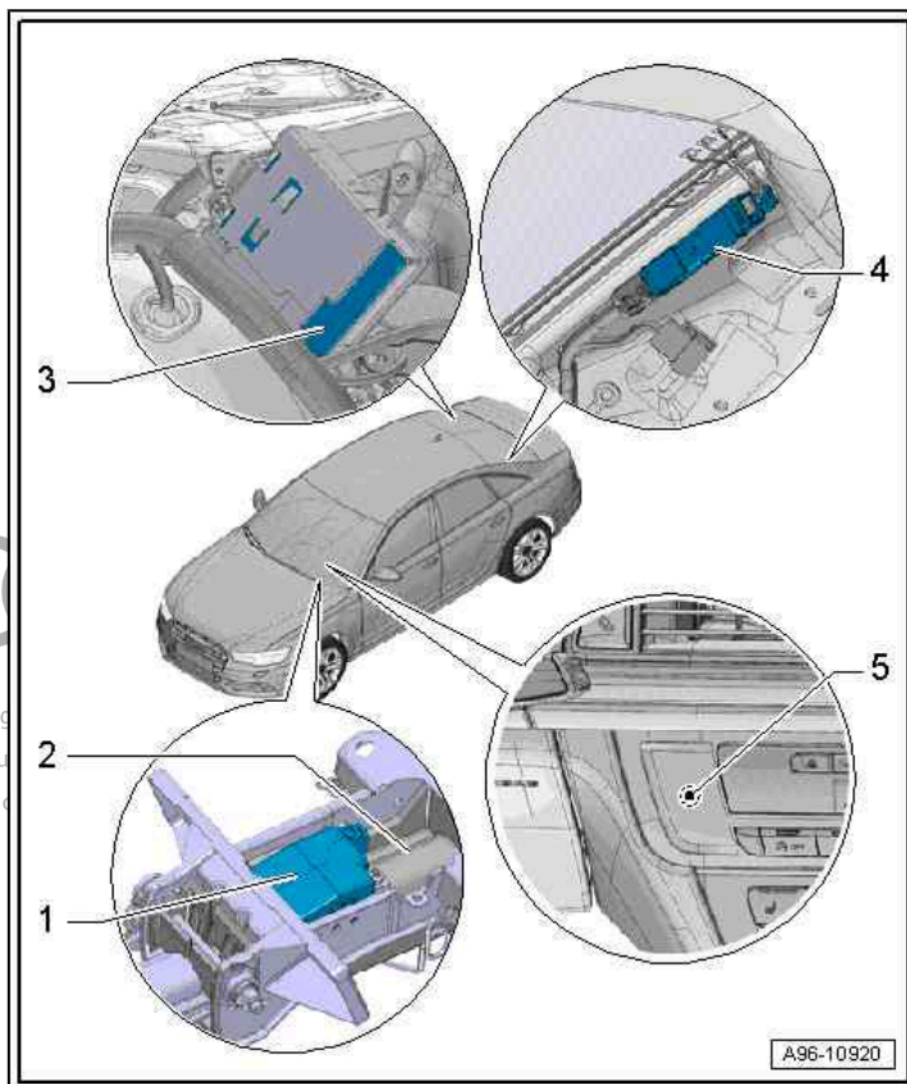
- ❑ Exploded view  
⇒ [page 407](#)

4 - Aerial amplifier 2 - R111-

- ❑ With central locking and anti-theft alarm system aerial - R47-
- ❑ Removing and installing  
⇒ Communication; Rep. gr. 91 ; Aerial systems; Removing and installing aerial amplifier

5 - Immobiliser reader coil - D2-

- ❑ Removing and installing  
⇒ [page 364](#)



A96-10920



## 10.1.2 Overview of fitting locations - entry and start authorisation system, Avant

### 1 - Electronic steering column lock control unit - J764-

- ❑ Removing and installing  
⇒ Running gear, axles, steering; Rep. gr. 48 ; Steering column; Removing and installing control unit for electronic steering column lock - J764-

### 2 - Steering column

### 3 - Convenience system central control unit - J393-

- ❑ Exploded view  
⇒ [page 407](#)

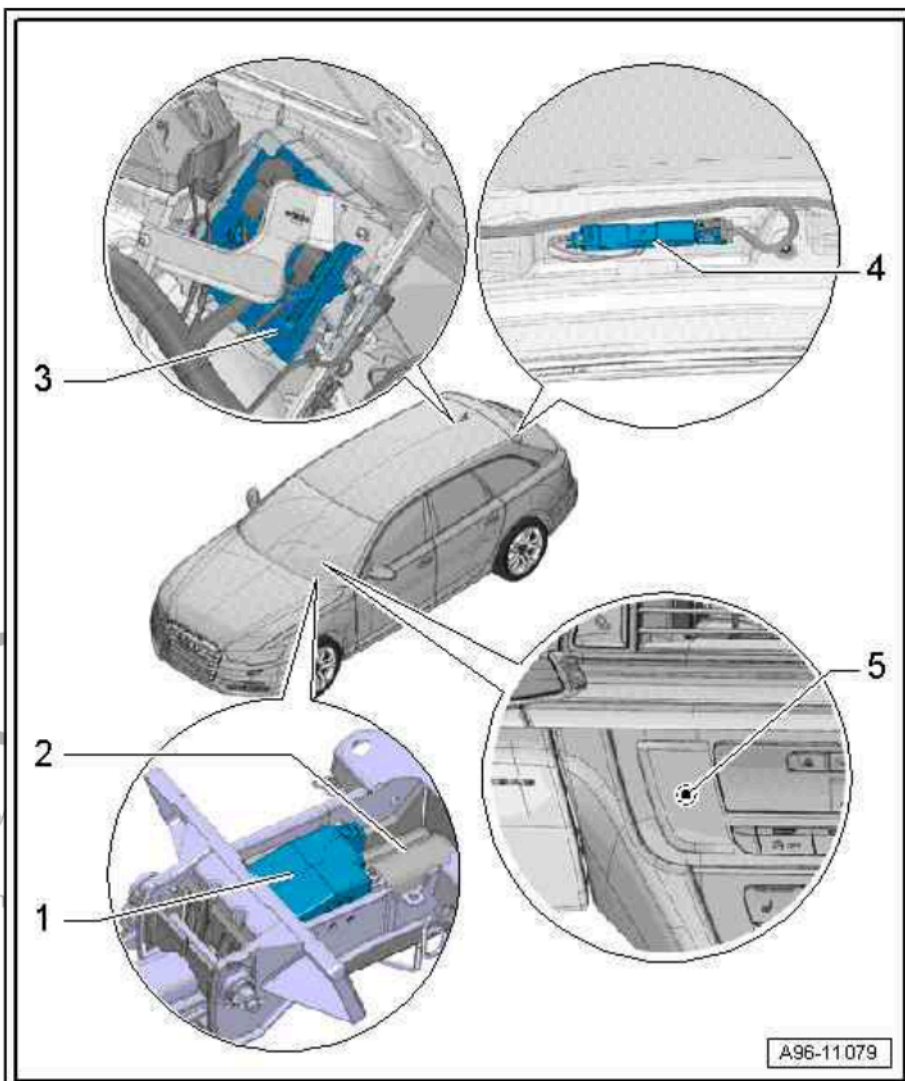
### 4 - Aerial amplifier 2 - R111-

- ❑ With central locking and anti-theft alarm system aerial - R47-
- ❑ Removing and installing  
⇒ Communication; Rep. gr. 91 ; Aerial systems; Removing and installing aerial amplifier

### 5 - Immobiliser reader coil - D2-

- ❑ Removing and installing  
⇒ [page 364](#)

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with respect to th





## 10.2 Overview of fitting locations - keyless entry system

⇒ ["10.2.1 Overview of fitting locations - keyless entry system \(front\), Saloon", page 265](#)

⇒ ["10.2.2 Overview of fitting locations - keyless entry system \(rear\), Saloon", page 266](#)

⇒ ["10.2.3 Overview of fitting locations - keyless entry system \(front\), Avant", page 267](#)

⇒ ["10.2.4 Overview of fitting locations - keyless entry system \(rear\), Avant", page 268](#)

### 10.2.1 Overview of fitting locations - keyless entry system (front), Saloon

1 - Electronic steering column lock control unit - J764-

- ❑ Removing and installing  
⇒ Running gear, axles, steering; Rep. gr. 48 ; Steering column; Removing and installing control unit for electronic steering column lock - J764-

2 - Steering column

3 - Front passenger's exterior door handle

- ❑ With contact sensor for front right exterior door handle - G606-

- ❑ Exploded view  
⇒ [page 269](#)

4 - Entry and start authorisation button - E408-

- ❑ Removing and installing  
⇒ [page 343](#)

5 - Convenience system central control unit - J393-

- ❑ Exploded view  
⇒ [page 407](#)

6 - Aerial amplifier 2 - R111-

- ❑ With central locking and anti-theft alarm system aerial - R47-

- ❑ Removing and installing  
⇒ Communication; Rep. gr. 91 ; Aerial systems; Removing and installing aerial amplifier

7 - Bolt

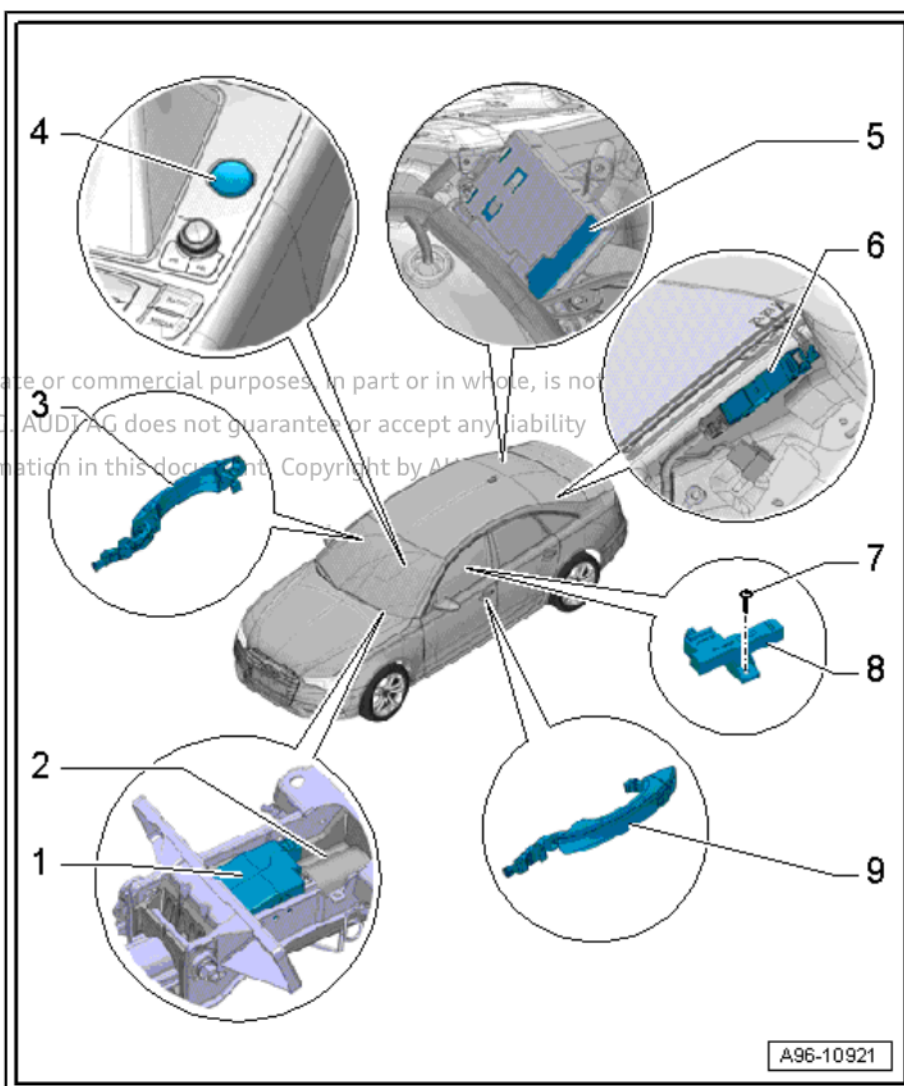
- ❑ 2 Nm

8 - Interior aerial 1 for entry and start authorisation - R138-

- ❑ Removing and installing ⇒ [page 273](#)

9 - Driver's exterior door handle

- ❑ With contact sensor for front left exterior door handle - G605-







- ❑ Exploded view ⇒ [page 269](#)

## 10.2.2 Overview of fitting locations - keyless entry system (rear), Saloon

### 1 - Aerial amplifier 2 - R111-

- ❑ With central locking and anti-theft alarm system aerial - R47-
- ❑ Removing and installing ⇒ Communication; Rep. gr. 91 ; Aerial systems; Removing and installing aerial amplifier

### 2 - Rear exterior door handle (driver side)

- ❑ With rear left door exterior door handle touch sensor - G417-
- ❑ Exploded view ⇒ [page 269](#)

### 3 - Left aerial for entry and start authorisation - R200-

- ❑ Removing and installing ⇒ [page 274](#)

### 4 - Bolt

- ❑ 2x
- ❑ 1 Nm

### 5 - Bolt

- ❑ 2x
- ❑ 1 Nm

### 6 - Right aerial for entry and start authorisation - R201-

- ❑ Removing and installing ⇒ [page 274](#)

### 7 - Rear exterior door handle (passenger side)

- ❑ With rear right door exterior door handle touch sensor - G418-
- ❑ Exploded view ⇒ [page 269](#)

### 8 - Convenience system central control unit - J393-

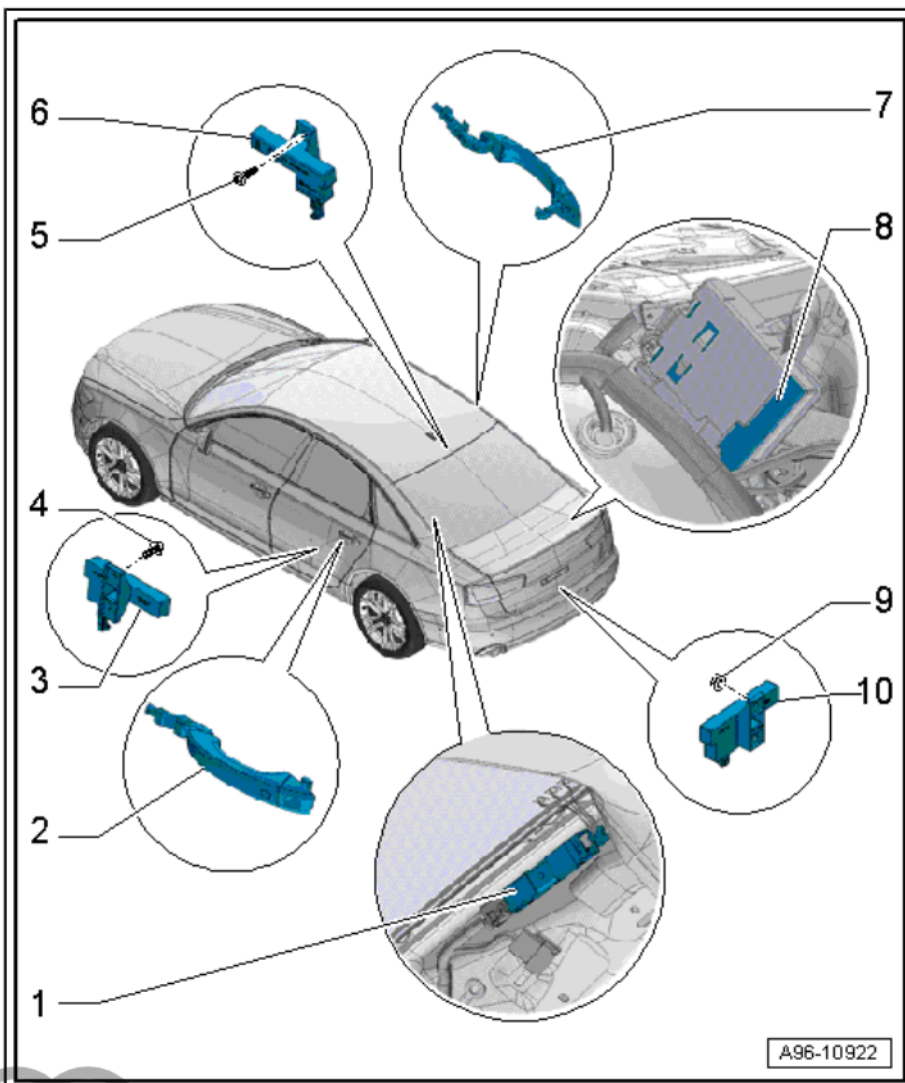
- ❑ Exploded view ⇒ [page 407](#)

### 9 - Nut

- ❑ 2x
- ❑ 2 Nm

### 10 - Luggage compartment aerial for entry and start system - R137-

- ❑ Removing and installing ⇒ [page 274](#)



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### 10.2.3 Overview of fitting locations - keyless entry system (front), Avant

1 - Electronic steering column lock control unit - J764-

- ❑ Removing and installing  
⇒ Running gear, axles, steering; Rep. gr. 48 ; Steering column; Removing and installing control unit for electronic steering column lock - J764-

2 - Steering column

3 - Front passenger's exterior door handle

- ❑ With contact sensor for front right exterior door handle - G606-
- ❑ Exploded view  
⇒ [page 269](#)

4 - Entry and start authorisation button - E408-

- ❑ Removing and installing  
⇒ [page 343](#)

5 - Convenience system central control unit - J393-

- ❑ Exploded view  
⇒ [page 407](#)

6 - Aerial amplifier 2 - R111-

- ❑ With central locking and anti-theft alarm system aerial - R47-
- ❑ Removing and installing  
⇒ Communication; Rep. gr. 91 ; Aerial systems; Removing and installing aerial amplifier

7 - Bolt

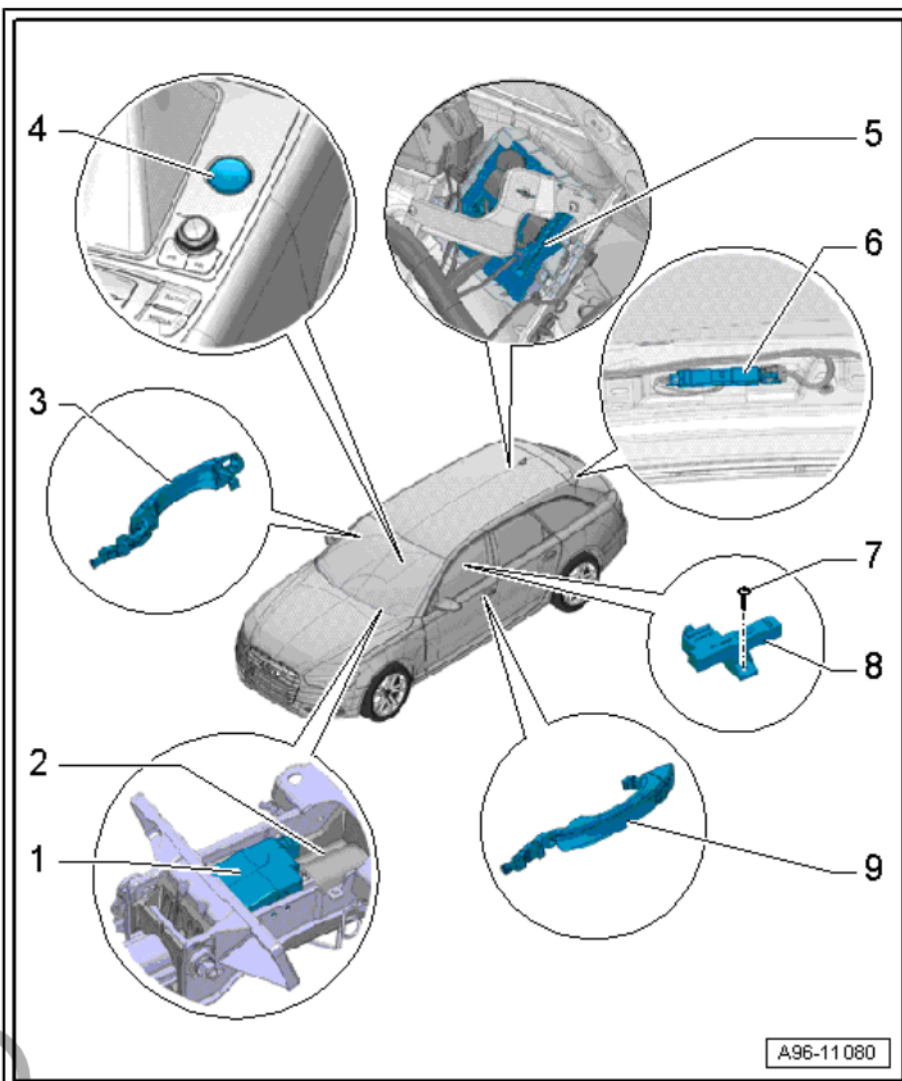
- ❑ 2 Nm

8 - Interior aerial 1 for entry and start authorisation - R138-

- ❑ Removing and installing ⇒ [page 273](#)

9 - Driver's exterior door handle

- ❑ With contact sensor for front left exterior door handle - G605-
- ❑ Exploded view ⇒ [page 269](#)



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## 10.2.4 Overview of fitting locations - keyless entry system (rear), Avant

### 1 - Aerial amplifier 2 - R111-

- ❑ With central locking and anti-theft alarm system aerial - R47-
- ❑ Removing and installing  
⇒ Communication;  
Rep. gr. 91 ; Aerial systems; Removing and installing aerial amplifier

### 2 - Rear exterior door handle (driver side)

- ❑ With rear left door exterior door handle touch sensor - G417-
- ❑ Exploded view  
⇒ [page 269](#)

### 3 - Left aerial for entry and start authorisation - R200-

- ❑ Removing and installing  
⇒ [page 274](#)

### 4 - Bolt

- ❑ 2x
- ❑ 1 Nm

### 5 - Bolt

- ❑ 2x
- ❑ 1 Nm

### 6 - Right aerial for entry and start authorisation - R201-

- ❑ Removing and installing  
⇒ [page 274](#)

### 7 - Rear exterior door handle (passenger side)

- ❑ With rear right door exterior door handle touch sensor - G418-
- ❑ Exploded view ⇒ [page 269](#)

### 8 - Convenience system central control unit - J393-

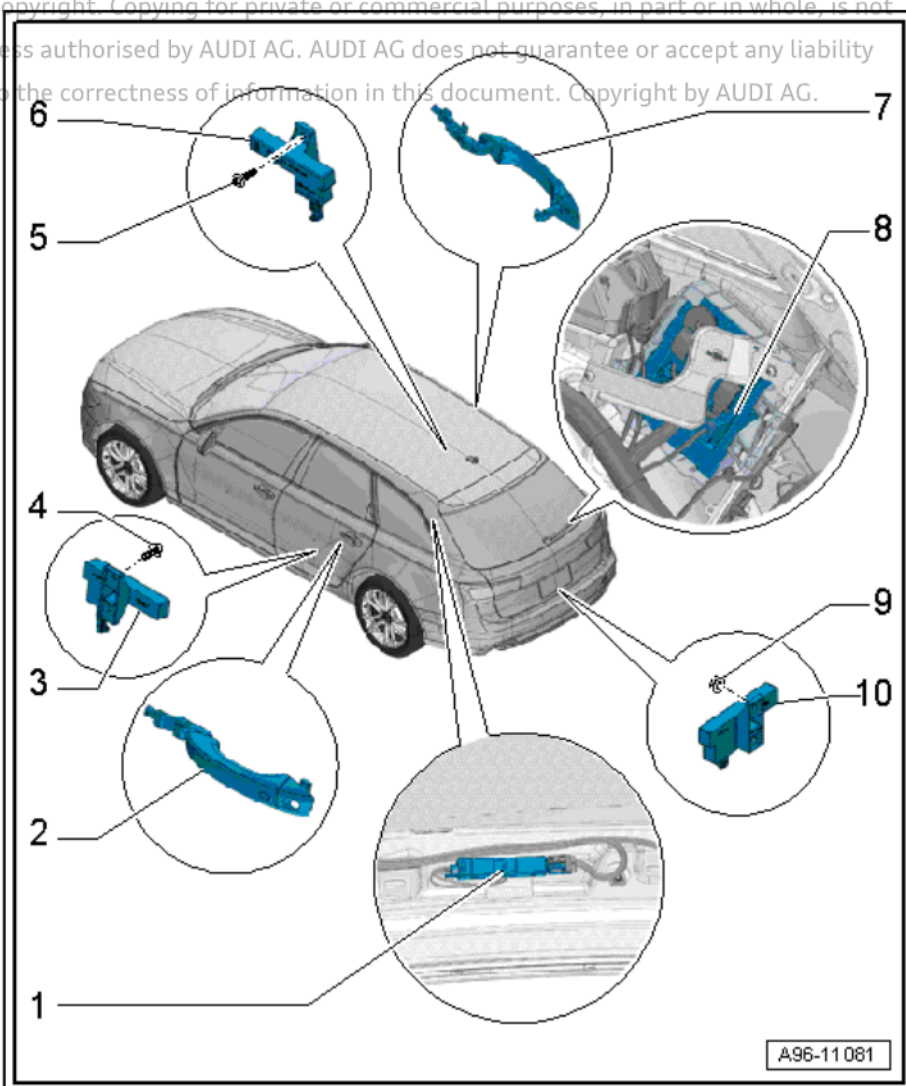
- ❑ Exploded view ⇒ [page 407](#)

### 9 - Nut

- ❑ 2x
- ❑ 2 Nm

### 10 - Luggage compartment aerial for entry and start system - R137-

- ❑ Removing and installing ⇒ [page 274](#)





## 10.3 Exploded view - exterior door handle for keyless entry system

1 - Contact sensor for exterior door handle

- ☐ In exterior door handle

Front door:

- ☐ Contact sensor for front left exterior door handle - G605- , contact sensor for front right exterior door handle - G606-
- ☐ Removing and installing  
⇒ [page 270](#)

Rear door:

- ☐ Contact sensor for rear left exterior door handle - G417- , contact sensor for rear right exterior door handle - G418-
- ☐ Removing and installing  
⇒ [page 271](#)

2 - Not fitted

3 - Anti-theft cover

- ☐ For door lock

4 - Door lock

5 - Lock cylinder

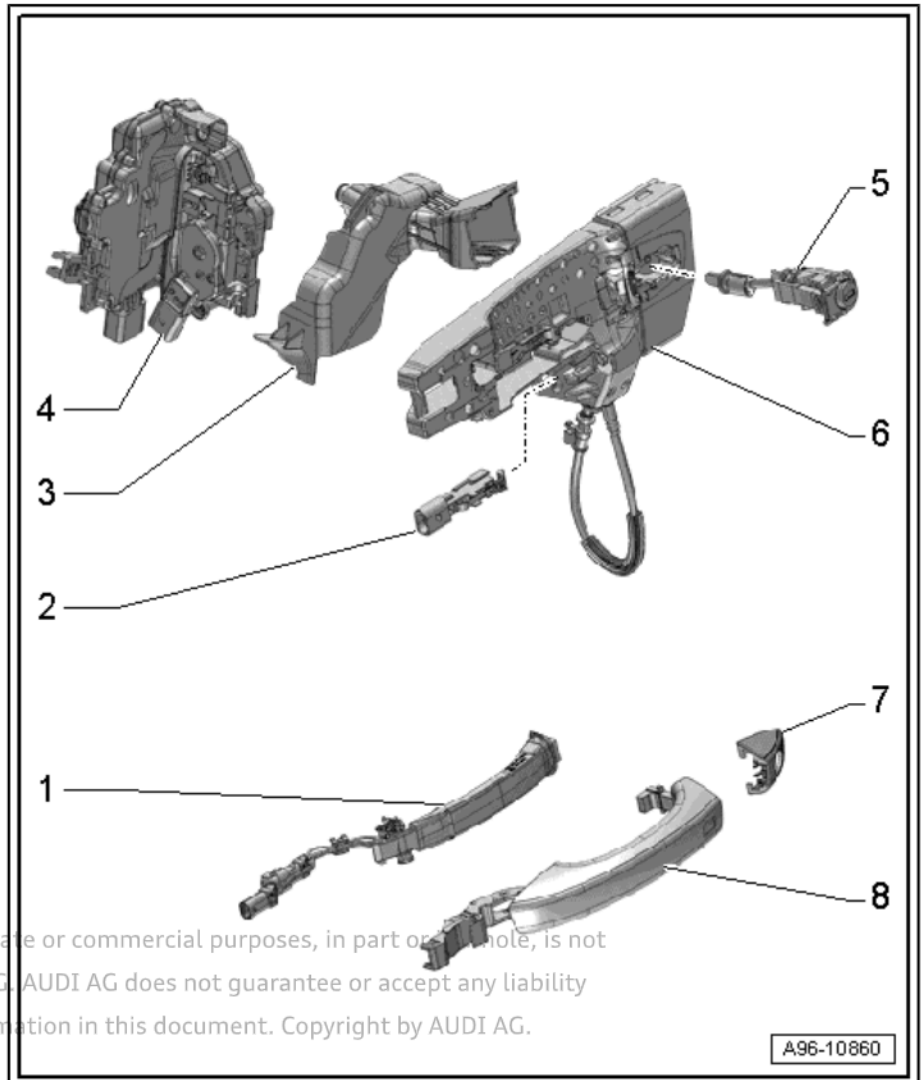
- ☐ Only on driver side

6 - Mounting bracket

7 - Trim cap

- ☐ Driver side: for lock cylinder
- ☐ Passenger side: without opening

8 - Exterior door handle



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A96-10860





## 10.4 Exploded view - rear lid power opening senders

1 - Clip

□ 7x

2 - Rear lid power opening sender - G750-

□ Removing and installing  
⇒ [page 276](#)

3 - Rear lid power opening control unit - J938-

□ Removing and installing  
⇒ [page 275](#)

4 - Bolt

□ 2.1 Nm

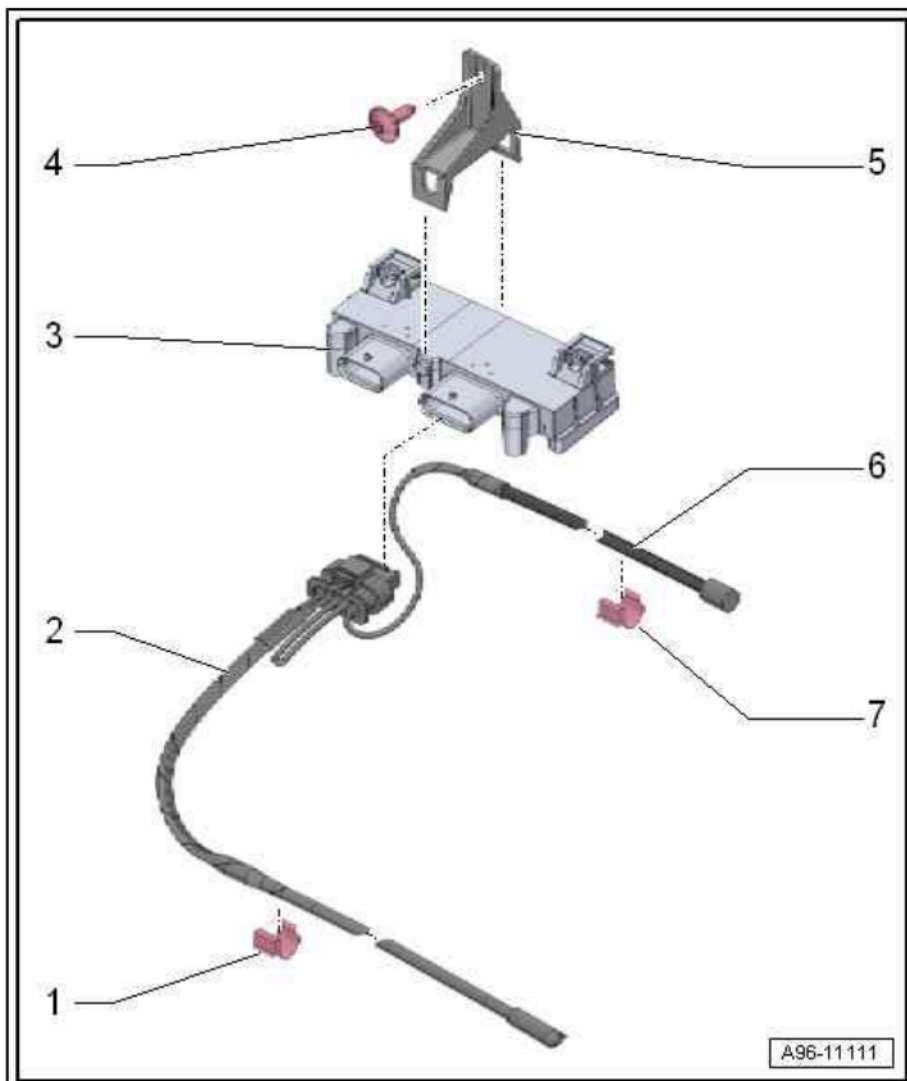
5 - Bracket

6 - Rear lid power opening sender 2 - G760-

□ Removing and installing  
⇒ [page 276](#)

7 - Clip

□ 5x



## 10.5 Removing and installing front exterior door handle switches

Special tools and workshop equipment required

◆ Hook - 3438-



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## Removing

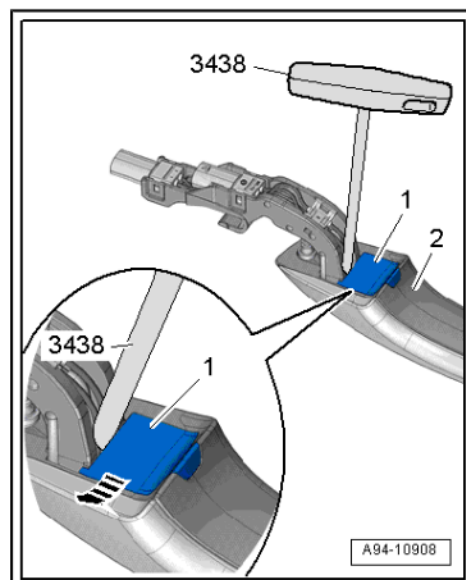
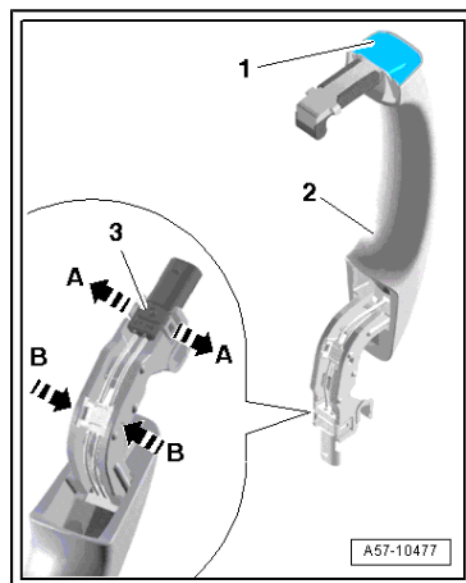
- Remove exterior door handle ⇒ General body repairs, exterior; Rep. gr. 57 ; Door components; Removing and installing exterior door handle .
- Release retaining tabs -arrows A- and take out electrical connector -3-.
- Use a small screwdriver to carefully release retaining hooks -arrows B- and detach wiring guide.



Note

Disregard items -1 and 2-.

- If fitted, remove front exterior door handle illumination bulb ⇒ [page 229](#) .
- Use hook - 3438- to release cover -1- on exterior door handle -2-.
- Pull cover out of exterior door handle -arrow-.

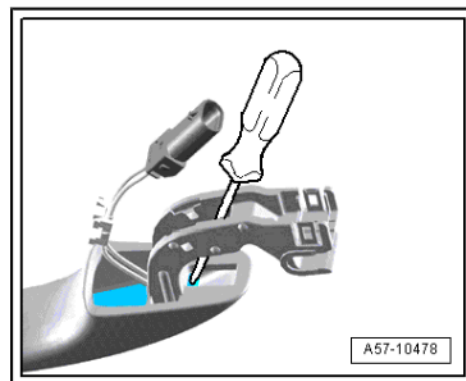


- Apply a large, strong screwdriver at exterior door handle, as shown in illustration.
- Exert force to press contact sensor for exterior door handle towards front out of retainer at exterior door handle.
- Pull contact sensor for front exterior door handle out of exterior door handle.

## Installing

Installation is carried out in reverse order; note the following:

- Press in contact sensor for front exterior door handle so that it engages audibly.



## 10.6 Removing and installing rear exterior door handle switches

### Special tools and workshop equipment required

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◆ Hook - 3438-



Removing

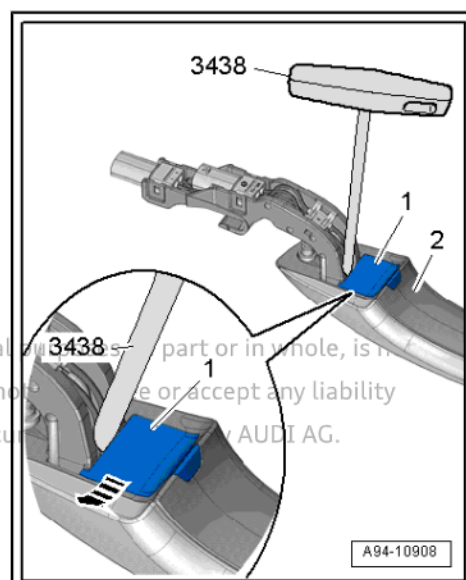
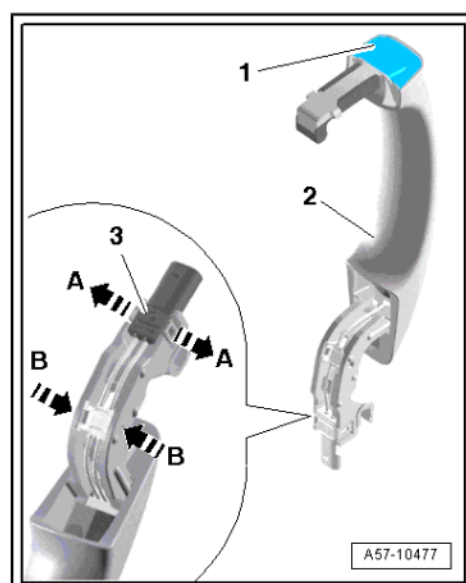
- Remove exterior door handle ⇒ General body repairs, exterior; Rep. gr. 58 ; Door components; Removing and installing exterior door handle .
- Release retaining tabs -arrows A- and take out electrical connector -3-.
- Use a small screwdriver to carefully release retaining hooks -arrows B- and detach wiring guide.



Note

Disregard items -1 and 2-.

- If fitted, remove rear exterior door handle illumination bulb ⇒ [page 230](#) .
- Use hook - 3438- to release cover -1- on exterior door handle -2-.
- Pull cover out of exterior door handle -arrow-.



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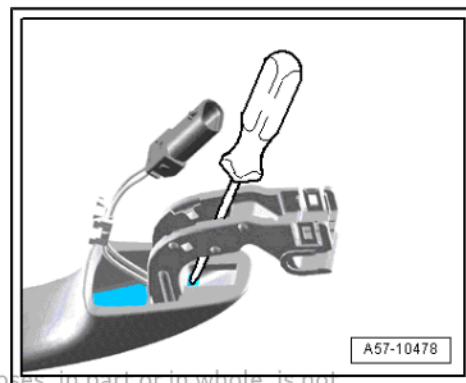


- Apply a large, strong screwdriver at exterior door handle, as shown in illustration.
- Exert force to press contact sensor for exterior door handle towards front out of retainer at exterior door handle.
- Pull contact sensor for rear exterior door handle out of exterior door handle.

#### Installing

Installation is carried out in reverse order; note the following:

- Press in contact sensor for rear exterior door handle so that it engages audibly.



## 10.7 Removing and installing aerial for entry and start system

⇒ [“10.7.1 Removing and installing interior aerial 1 for entry and start authorisation R138”, page 273](#)

⇒ [“10.7.2 Removing and installing luggage compartment aerial for entry and start system R137”, page 274](#)

⇒ [“10.7.3 Removing and installing aerial for entry and start authorisation R200 / R201”, page 274](#)

### 10.7.1 Removing and installing interior aerial 1 for entry and start authorisation - R138-

#### Removing

- Remove multimedia system operating unit ⇒ Communication; Rep. gr. 91 ; Infotainment system; Removing and installing multimedia system operating unit - E380- .
- Remove bolt -3-.
- Detach aerial -1-.
- Unplug electrical connector -2-.

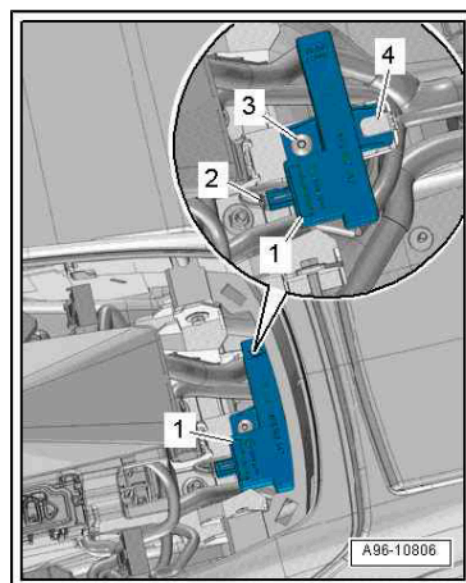
#### Installing

Installation is carried out in reverse order; note the following:

- When inserting make sure aerial engages in mounting -4-.

#### Tightening torques

- ◆ ⇒ [“10.2 Overview of fitting locations - keyless entry system”, page 265](#)





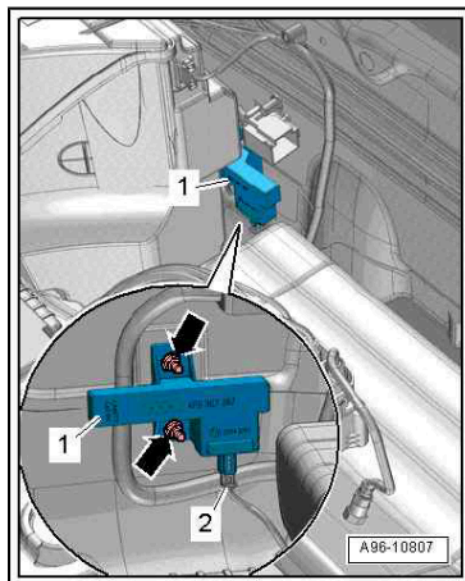
## 10.7.2 Removing and installing luggage compartment aerial for entry and start system - R137-

### Removing

- Take hold of grip to lift luggage compartment floor covering and fold it towards front.

### Vehicles with high-voltage system - hybrid:

- Remove rear cross panel trim ⇒ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim panels; Removing and installing lock carrier trim .
- Remove rear exhaust air duct for drive battery ⇒ Heating, air conditioning; Rep. gr. 87 ; Battery cooling module .



### Vehicles with high-voltage system - e-tron:

- Open flap in luggage compartment floor.
- Take out tool kit -1-.

### All vehicles (continued):

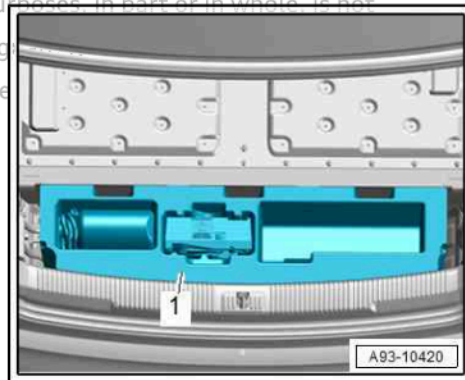
- Unscrew nuts -arrows- and detach aerial -1-.
- Unplug electrical connector -2-.

### Installing

Installation is carried out in reverse sequence.

### Tightening torques

- ◆ ⇒ [“10.2 Overview of fitting locations - keyless entry system”, page 265](#)



## 10.7.3 Removing and installing aerial for entry and start authorisation -R200- / -R201-

### Removing

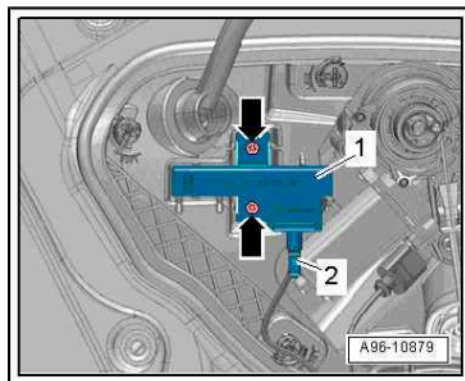
- Remove door trim (rear) ⇒ General body repairs, interior; Rep. gr. 70 ; Door trim (rear); Removing and installing door trim (rear) .
- Remove bolts -arrows- and detach aerial -1-.
- Unplug electrical connector -2-.

### Installing

Installation is carried out in reverse sequence.

### Tightening torques

- ◆ ⇒ [“10.2 Overview of fitting locations - keyless entry system”, page 265](#)







## 10.8 Removing and installing rear lid power opening control unit - J938-



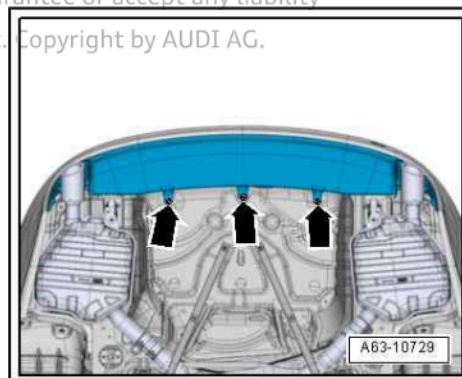
### WARNING

*Risk of leg injuries.*

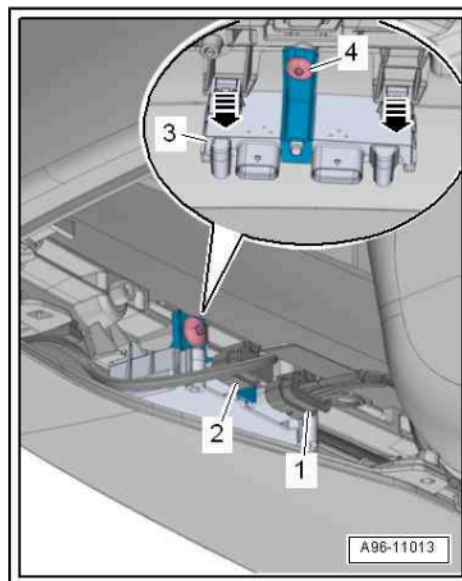
- ◆ *Do not stand in the towing bracket's area of movement when you are releasing the towing bracket.*

### Removing

- Extend ball head of towing bracket ⇒ Owner's Manual .
- Remove bolts -arrows- on bottom section of bumper cover.



- Unplug electrical connectors -1, 2-.
- Remove bolt -4-.
- Press control unit -3- off retainers on bumper cover -arrows-.







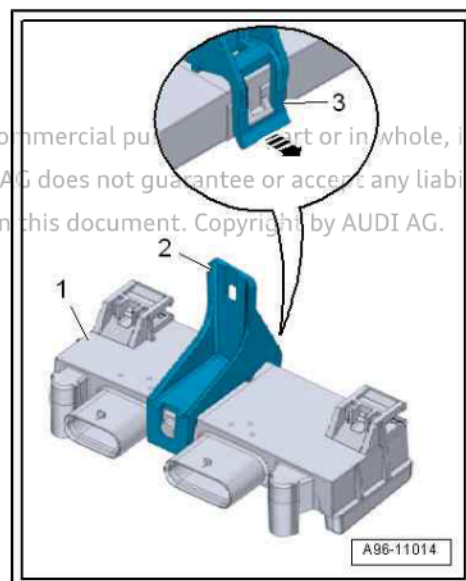
- If control unit is to be renewed, release retaining tab -3-  
-arrow- and disengage retainer -2- at control unit -1-.

#### Installing

Installation is carried out in reverse sequence.

#### Tightening torques

- ◆ ⇒ ["10.4 Exploded view - rear lid power opening senders", page 270](#)
- ◆ Rear bumper ⇒ General body repairs, exterior; Rep. gr. 63 ;  
Bumper (rear); Exploded view - bumper cover



## 10.9 Removing and installing rear lid power opening senders -G750- / -G760-

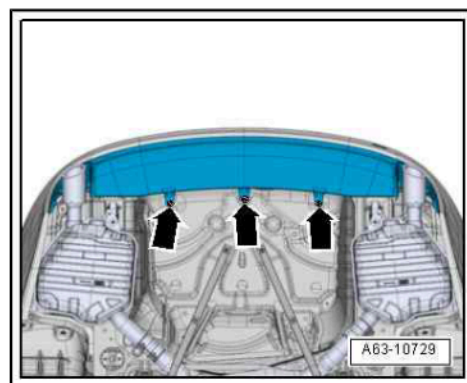
⇒ ["10.9.1 Removing and installing rear lid power opening senders G750 / G760 - vehicles without towing bracket", page 276](#)

⇒ ["10.9.2 Removing and installing rear lid power opening senders G750 / G760 - vehicles with towing bracket", page 277](#)

### 10.9.1 Removing and installing rear lid power opening senders -G750- / -G760- - vehicles without towing bracket

#### Removing

- Remove bolts -arrows- on bottom section of bumper cover.
- Detach mounting -1- with sender.





- Unplug electrical connector -1-.
- Cut through cable tie -2-.
- Remove senders -3, 4- from clips -arrows-.

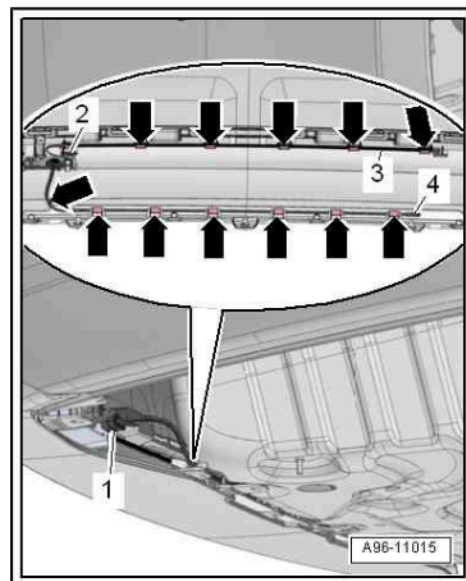
#### Installing

Installation is carried out in reverse order; note the following:

- Rear lid power opening sender 2 - G760- must be secured at bumper cover (top).
- Distinguishing feature: pin “4 and 5” on connector.

#### Tightening torques

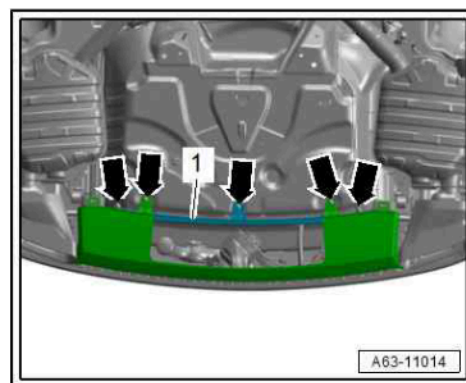
- ◆ Rear bumper ⇒ General body repairs, exterior; Rep. gr. 63 ; Bumper (rear); Exploded view - bumper cover



### 10.9.2 Removing and installing rear lid power opening senders -G750- / -G760- - vehicles with towing bracket

#### Removing

- Remove bolts -arrows- on bottom section of bumper cover.
- Detach mounting -1- with sender.



- Unplug electrical connector -1-.
- Remove senders -2- from clips.

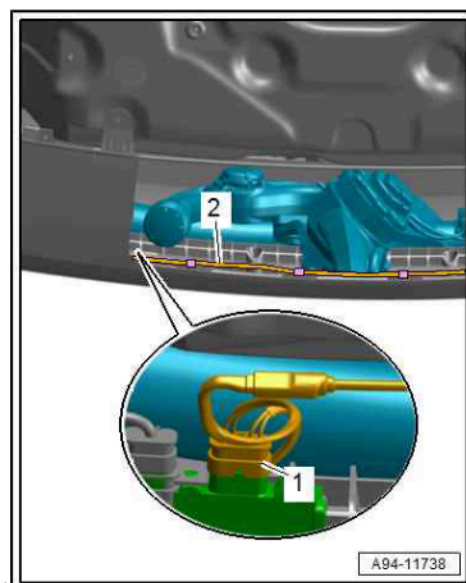
#### Installing

Installation is carried out in reverse order; note the following:

- Rear lid power opening sender 2 - G760- must be secured at bumper cover (top).
- Distinguishing feature: pin “4 and 5” on connector.

#### Tightening torques

- ◆ Rear bumper ⇒ General body repairs, exterior; Rep. gr. 63 ; Bumper (rear); Exploded view - bumper cover



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## 11 Steering column switch module

⇒ "11.1 Exploded view - steering column switch module",  
page 278

⇒ "11.2 Removing and installing steering column switch module",  
page 279

⇒ "11.3 Removing and installing steering column electronics control unit J527", page 280

⇒ "11.5 Pin assignment on steering column electronics control unit", page 281

⇒ "11.4 Removing and installing steering column combination switch", page 281

⇒ "11.5 Pin assignment on steering column electronics control unit", page 281

### 11.1 Exploded view - steering column switch module

1 - Ignition key

2 - Bolt

□ 0.5 Nm

3 - Transport protection

4 - Steering column electronics control unit - J527-

- With airbag coil connector and return ring with slip ring - F138-, steering angle sender - G85-
- Removing and installing  
⇒ page 280



Caution

*Risk of damage to return ring.  
Return ring with slip ring must not be turned following removal.*

- Pin assignment for steering column electronics control unit - J527- ⇒ page 281

5 - Mounting

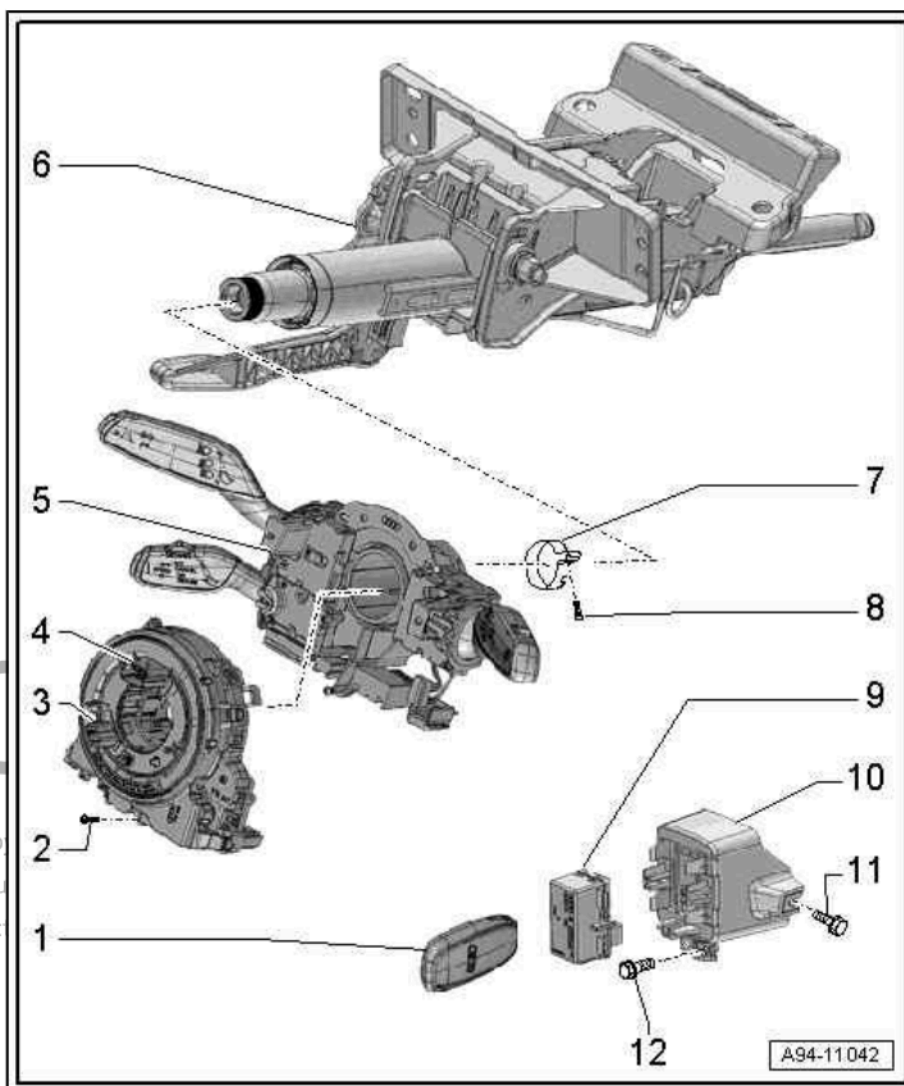
- With turn signal switch - E2-, intermittent wiper switch - E22-
- On vehicles with cruise control: with cruise control system switch - E45-
- Removing and installing  
⇒ page 281

6 - Steering column

7 - Clamping ring

8 - Bolt

□ 6 Nm





#### 9 - Immobiliser reader coil - D2-

- ❑ Removing and installing ⇒ [page 364](#)

#### 10 - Mounting

- ❑ For immobiliser reader coil - D2-
- ❑ Removing and installing ⇒ [page 364](#)

#### 11 - Bolt

- ❑ 3 Nm

#### 12 - Bolt

- ❑ 3 Nm

## 11.2 Removing and installing steering column switch module

### Removing

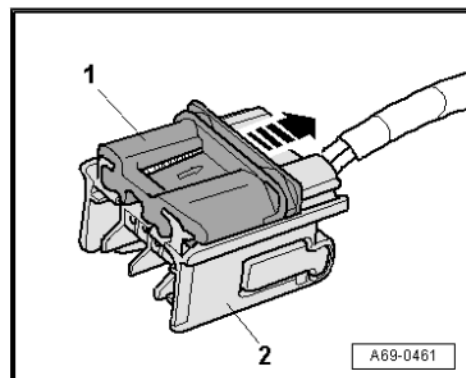
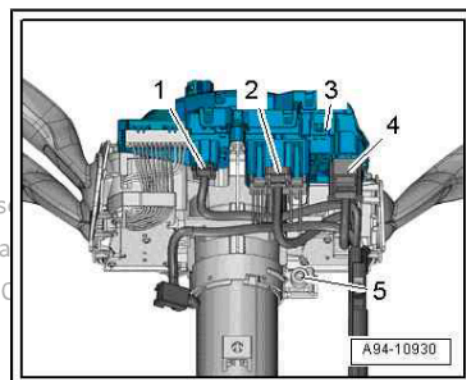
- Make sure steering wheel is at centre position with wheels pointing straight ahead.
- Move steering wheel down and to rear as far as possible, making use of full range of steering column adjuster.
- Remove steering wheel ⇒ Running gear, axles, steering; Rep. gr. 48 ; Steering wheel; Removing and installing steering wheel .
- Remove steering column trim ⇒ General body repairs, interior; Rep. gr. 68 ; Storage compartments/covers/trim panels; Exploded view - steering column trim .
- Remove bolt -5-.
- Unplug electrical connectors -1- and -2-.



### WARNING

*Before disconnecting the electrical connector -4-, the mechanic must discharge static by briefly grasping hold of striker plate for door or similar.*

- Unplug electrical connector -4-.
- Press catch -1- in direction of -arrow- until connector -2- disengages.







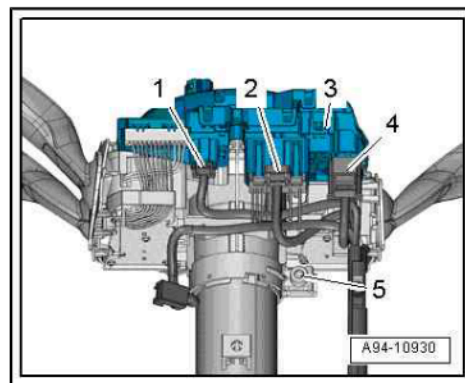
- Detach steering column switch module -3-.

Installing

Installation is carried out in reverse sequence.

Tightening torques

- ◆ ⇒ ["11.1 Exploded view - steering column switch module", page 278](#)



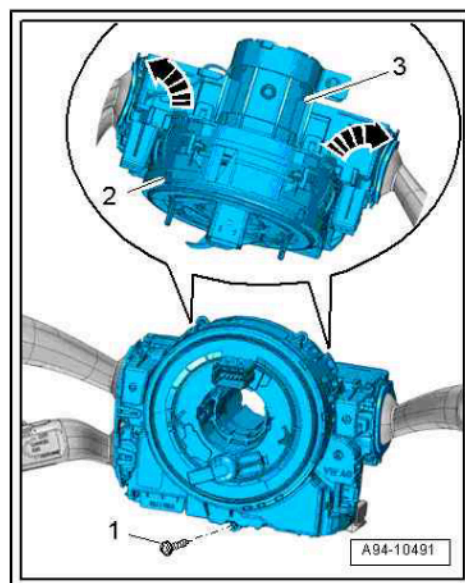
### 11.3 Removing and installing steering column electronics control unit - J527-

Airbag coil connector and return ring with slip ring - J527- and steering angle sender - F138- are integrated in steering column electronics control unit - G85-.

- If control unit is being renewed, select function "Replace" for corresponding control unit in "Guided Fault Finding" or "Guided Functions" mode ⇒ [Vehicle diagnostic tester](#).

Removing

- Make sure steering wheel is at centre position with wheels pointing straight ahead.
- Move steering wheel down and to rear as far as possible, making use of full range of steering column adjuster.
- Remove steering wheel ⇒ Running gear, axles, steering; Rep. gr. 48 ; Steering wheel; Removing and installing steering wheel .
- Remove steering column trim ⇒ General body repairs, interior; Rep. gr. 68 ; Storage compartments/covers/trim panels; Exploded view - steering column trim .
- Remove bolt -1-.
- Carefully release retaining hooks -arrows- and pull airbag coil connector and return ring with slip ring - F138- -item 2- off steering column switch module -3-.





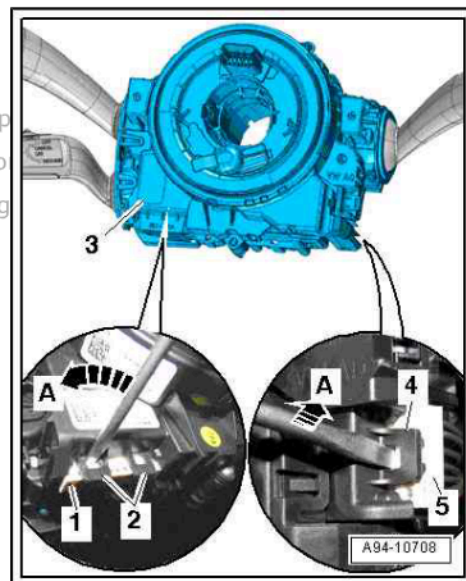


- Release electrical connectors at airbag coil connector and return ring with slip ring - F138- -item 3-; to do so, position screwdriver at retaining hooks -2- and -4-, as shown, and carefully release connectors -1- and -5- in direction of -arrows A-.
- Detach airbag coil connector and return ring with slip ring - F138- at steering column switch module.

#### Installing

Installation is carried out in reverse order; note the following:

- Make sure all retaining hooks and the electrical connectors are properly engaged.
- Perform calibration of steering angle sender in "Guided Fault Finding" or "Guided Functions" mode after renewing return ring with slip ring ⇒ Vehicle diagnostic tester.



## 11.4 Removing and installing steering column combination switch



#### Note

*Turn signal switch - E2- / cruise control system switch - E45- / intermittent wiper switch - E22- are integrated in steering column combination switch.*

#### Removing

- Remove steering column switch module ⇒ [page 279](#) .
- Remove steering column electronics control unit - J527- ⇒ [page 280](#) .
- Detach turn signal switch - E2- , cruise control system switch - E45- , intermittent wiper switch - E22-

#### Installing

Installation is carried out in reverse sequence.

## 11.5 Pin assignment on steering column electronics control unit

- ◆ The steering column electronics control unit - J527- is part of the "steering column switch module". It receives signals e.g. from the steering column switch.
- ◆ Checking steering column electronics control unit -J527- in "Guided Fault Finding" mode ⇒ Vehicle diagnostic tester

#### Reverse side



A - Plug connection: airbag control unit

3 - Driver side airbag igniter - N95- "+"

4 - Airbag igniter on driver side - N95- "-"

5 - Igniter for exhaust valve for driver airbag - N490- "-"

6 - Igniter for exhaust valve for driver airbag - N490- "+"

B - Plug connection: vehicle electrical system

1 - Terminal 31/heated steering wheel

2 - Terminal 30/heated steering wheel

3 - Voltage supply (terminal 30)

4 - Not used

5 - Cruise control system switched off (click stop engaged)

6 - Not used

7 - Alarm

8 - CAN bus Low (convenience)

9 - CAN bus High (convenience)

10 - Voltage supply (terminal 31)

11 - CAN bus High (drive train)

12 - CAN bus Low (drive train)

13 - Signal - electronic ignition lock, terminal 15

14 - Not used

15 - Not used

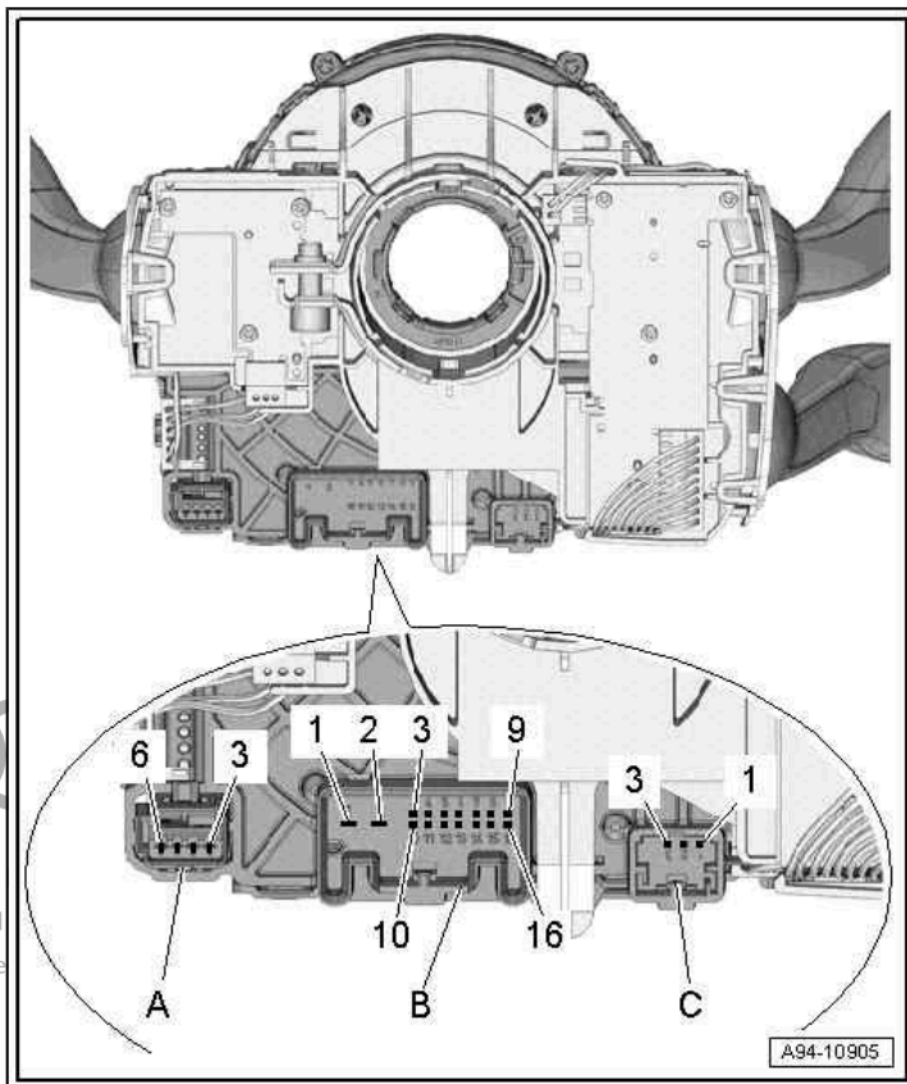
16 - Not used

C - Plug connection: vehicle electrical system

1 - Steering wheel heater button

2 - Not used

3 - Not used





## 12 Parking aid

⇒ ["12.1 Overview - parking aid", page 283](#)

⇒ ["12.2 Removing and installing parking aid control unit J446", page 285](#)

⇒ ["12.3 Removing and installing front parking aid warning buzzer H22", page 285](#)

⇒ ["12.4 Removing and installing rear parking aid warning buzzer H15", page 286](#)

⇒ ["12.5 Removing and installing front parking aid senders", page 286](#)

⇒ ["12.6 Removing and installing rear parking aid senders", page 287](#)

### 12.1 Overview - parking aid

⇒ ["12.1.1 Overview - parking aid \(front\)", page 283](#)

⇒ ["12.1.2 Overview - parking aid \(rear\)", page 284](#)

#### 12.1.1 Overview - parking aid (front)

1 - Front centre right parking aid sender - G253-

- ❑ Removing and installing  
⇒ [page 286](#)

2 - Front right parking aid sender - G252-

- ❑ Removing and installing  
⇒ [page 286](#)

3 - Front right sender for park assist steering on right side of vehicle - G569-

- ❑ Exploded view  
⇒ [page 290](#)

4 - Parking aid button - E266-

- ❑ Only for 8-channel parking aid
- ❑ Removing and installing  
⇒ ["2.13 Removing and installing switches in dash panel", page 333](#)

5 - Park assist steering button - E581-

- ❑ Exploded view  
⇒ [page 290](#)

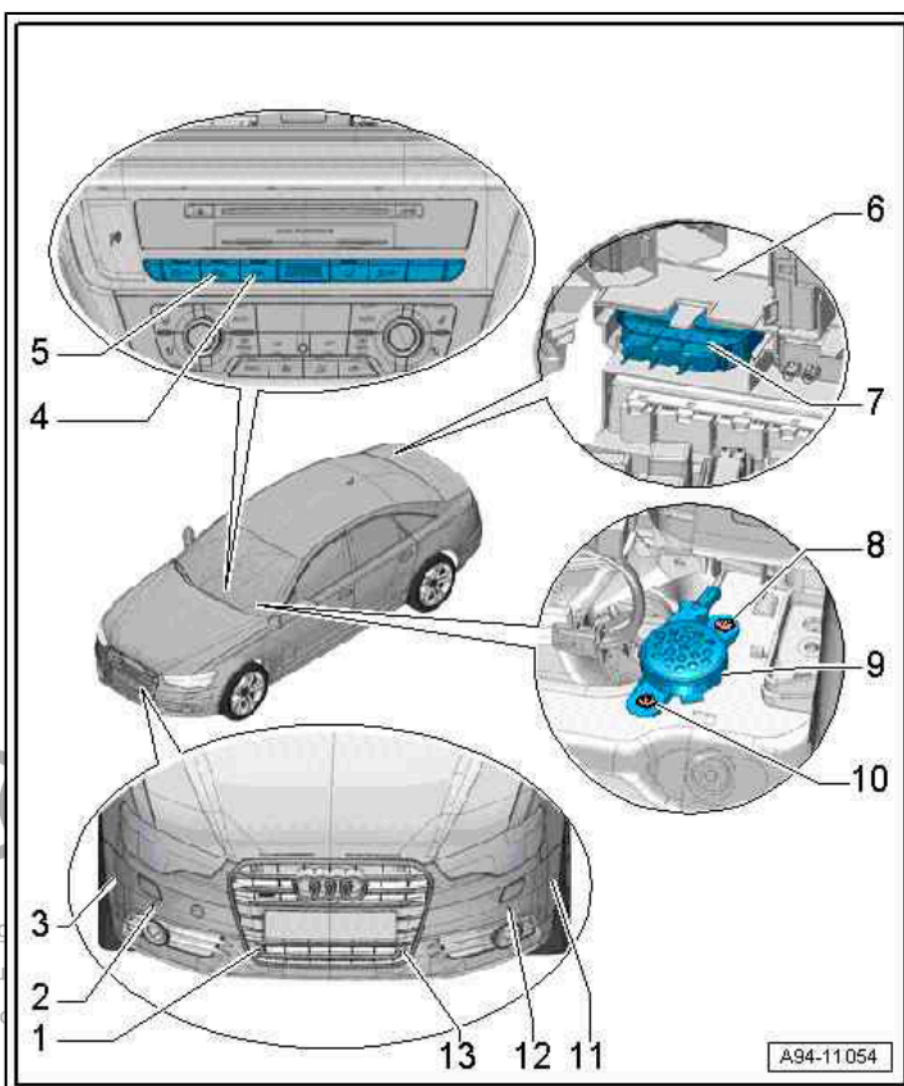
6 - Retaining frame (bottom)

- ❑ For control units

7 - Parking aid control unit - J446-

Vehicles up to model year 2014

- ❑ Removing and installing  
⇒ [page 285](#)



Vehicles from model year 2015 onwards



- ☐ Integrated in onboard supply control unit - J519-
- ☐ Removing and installing ⇒ ["2.3 Removing and installing onboard supply control unit J519", page 436](#)

8 - Fastener

9 - Front parking aid warning buzzer - H22-

- ☐ Only for 8-channel parking aid
- ☐ Removing and installing ⇒ [page 285](#)

10 - Fastener

11 - Front left sender for park assist steering on left side of vehicle - G568-

- ☐ Exploded view ⇒ [page 290](#)

12 - Front left parking aid sender - G255-

- ☐ Removing and installing ⇒ [page 286](#)

13 - Front centre left parking aid sender - G254-

- ☐ Removing and installing ⇒ [page 286](#)

## 12.1.2 Overview - parking aid (rear)

1 - Rear parking aid warning buzzer - H15-

- ☐ Removing and installing ⇒ [page 286](#)

2 - Rear belt guide

- ☐ With mounting for rear parking aid warning buzzer - H15-

3 - Rear centre left parking aid sender - G204-

- ☐ Removing and installing ⇒ [page 287](#)

4 - Rear left parking aid sender - G203-

- ☐ Removing and installing ⇒ [page 287](#)

5 - Rear left park assist steering sender - G716-

- ☐ Exploded view ⇒ [page 290](#)

6 - Rear right park assist steering sender - G717-

- ☐ Exploded view ⇒ [page 290](#)

7 - Rear right parking aid sender - G206-

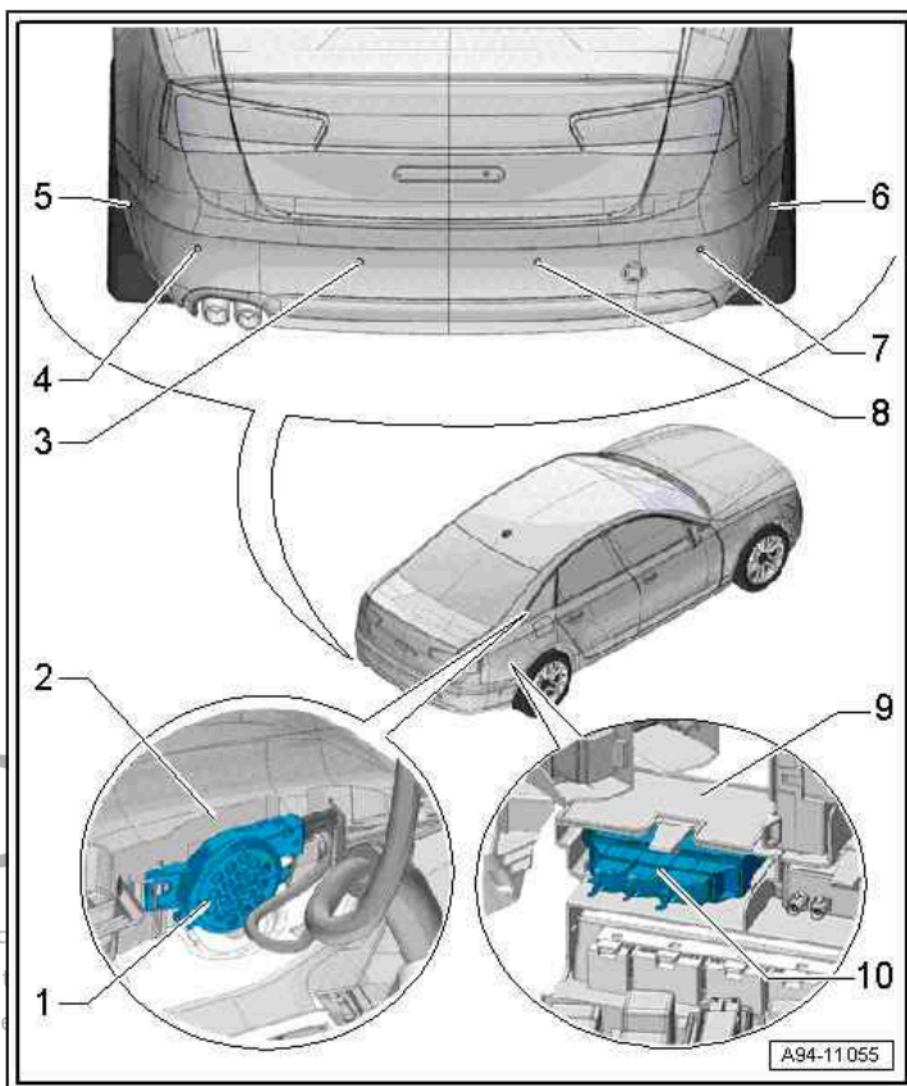
- ☐ Removing and installing ⇒ [page 287](#)

8 - Rear centre right parking aid sender - G205-

- ☐ Removing and installing ⇒ [page 287](#)

9 - Retaining frame (bottom)

- ☐ For control units







## 10 - Parking aid control unit - J446-

Vehicles up to model year 2014

- ❑ Removing and installing ⇒ [page 285](#)

Vehicles from model year 2015 onwards

- ❑ Integrated in onboard supply control unit - J519-
- ❑ Removing and installing ⇒ ["2.3 Removing and installing onboard supply control unit J519 ", page 436](#)

## 12.2 Removing and installing parking aid control unit - J446-

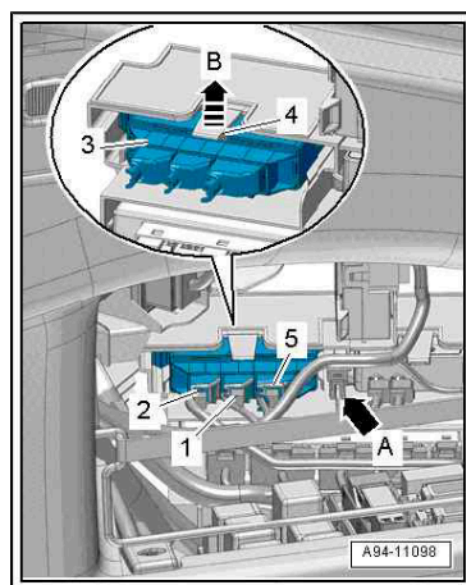
- If control unit is being renewed, select function "Replace" for corresponding control unit in "Guided Fault Finding" or "Guided Functions" mode ⇒ Vehicle diagnostic tester.

### Removing

- Remove cover for luggage compartment side trim (right-side).
- Move clear electrical wiring harness at retaining frame (bottom) -arrow A-.
- Unplug electrical connectors -1, 2, 5-.
- Release retaining spring -4- -arrow B- and pull control unit -3- out of retaining frame (bottom).

### Installing

Installation is carried out in reverse sequence.



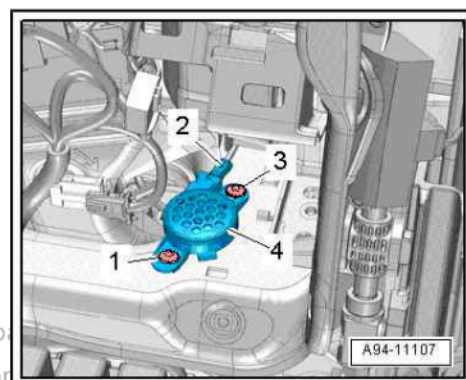
## 12.3 Removing and installing front parking aid warning buzzer - H22-

### Removing

- Remove dash panel cover (driver side) ⇒ General body repairs, interior; Rep. gr. 68 ; Storage compartments/covers/trim panels; Removing and installing dash panel cover (driver side) .
- Pull out spreader pins -1- and -3-.
- Detach front parking aid warning buzzer -4-.
- Unplug electrical connector -2-.

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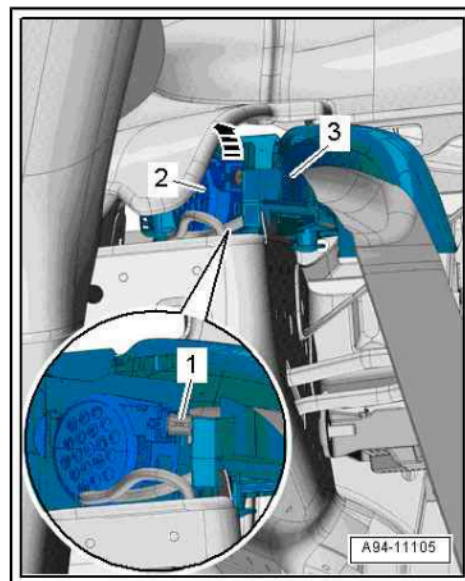
## 12.4 Removing and installing rear parking aid warning buzzer - H15-

### Removing

- Remove luggage compartment side trim (right-side) ⇒ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim panels; Removing and installing luggage compartment side trim .
- Remove rear belt guide from body ⇒ General body repairs, interior; Rep. gr. 69 ; Seat belts; Removing and installing belt guide (rear) .
- Swivel rear parking aid warning buzzer -2- out of mounting in belt guide -3- -arrow-.
- Unplug electrical connector -1-.

### Installing

Installation is carried out in reverse sequence.



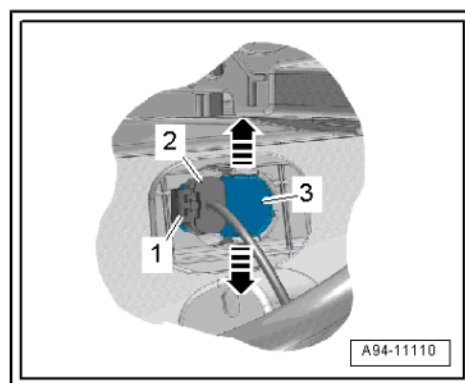
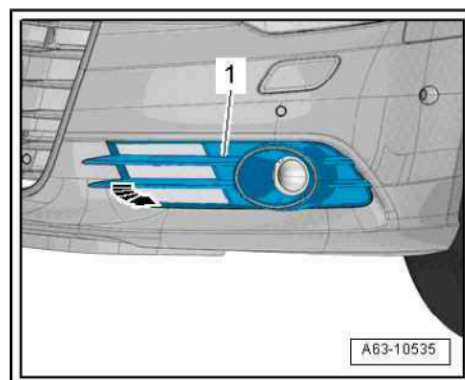
## 12.5 Removing and installing front parking aid senders

### Removing

- Audi allroad: Remove closure plate for bumper cover (front) ⇒ General body repairs, exterior; Rep. gr. 63 ; Bumper (front); Removing and installing attachments .

### Outer senders:

- Pull air intake grille -1- off bumper cover -arrow-.
- Remove front bumper cover on vehicles with auxiliary radiator (left-side), auxiliary radiator (right-side) and/or auxiliary heating ⇒ General body repairs, exterior; Rep. gr. 63 ; Bumper (front); Removing and installing bumper cover .
- Press both retaining tabs apart -arrows- and at the same time press out sender -3- from outside to inside.
- Unplug electrical connector -2- by sliding locking element -1- to rear and pressing down release catch.



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#### Inner senders:

- Remove closure plate for bumper cover ⇒ General body repairs, exterior; Rep. gr. 63 ; Bumper (front); Removing and installing attachments .
- Audi RS 6: Detach air duct for radiator (bottom) from radiator.
- Press both retaining tabs apart -arrows- and at the same time press out sender -3- from outside to inside.
- Unplug electrical connector -2- by sliding locking element -1- to rear and pressing down release catch.



Note

*If sender cannot be removed as described, mounting for front parking aid sender must be removed. Remove mounting for front parking aid sender ⇒ General body repairs, exterior; Rep. gr. 66 ; Radiator grille/front trim panel; Exploded view - radiator grille .*

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Installation is carried out in reverse sequence.

## 12.6 Removing and installing rear parking aid senders

⇒ ["12.6.1 Removing and installing rear parking aid senders - vehicles up to model year 2014", page 287](#)

⇒ ["12.6.2 Removing and installing rear parking aid senders - vehicles from model year 2015 onwards", page 288](#)

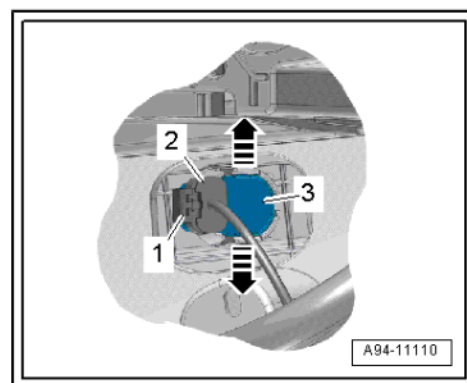
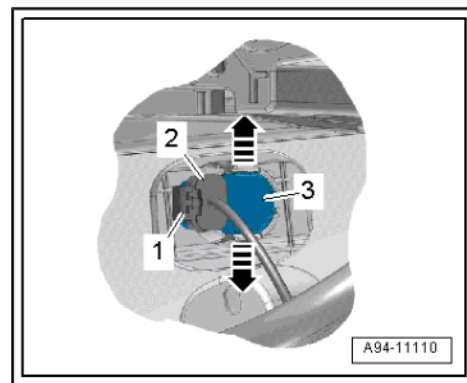
### 12.6.1 Removing and installing rear parking aid senders - vehicles up to model year 2014

#### Removing

- Audi RS 6: Remove rear bumper cover ⇒ General body repairs, exterior; Rep. gr. 63 ; Bumper (rear); Removing and installing bumper cover .

#### Outer senders:

- Reach behind bumper cover and press both retaining tabs apart -arrows-; at the same time press out sender -3- from outside to inside.
- Unplug electrical connector -2- by sliding locking element -1- to rear and pressing down release catch.





#### Inner senders:

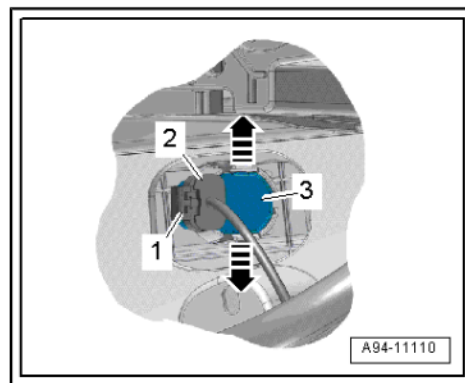
- Remove rear bumper cover ⇒ General body repairs, exterior; Rep. gr. 63 ; Bumper (rear); Removing and installing bumper cover .
- Press both retaining tabs apart -arrows- and at the same time press out sender -3- from outside to inside.
- Unplug electrical connector -2- by sliding locking element -1- to rear and pressing down release catch.

#### Installing

Installation is carried out in reverse order; note the following:

Lane change assist control unit -J769- / -J770- must be recalibrated whenever bumper cover has been removed

⇒ ["6.5 Calibrating lane change assist", page 367](#) .

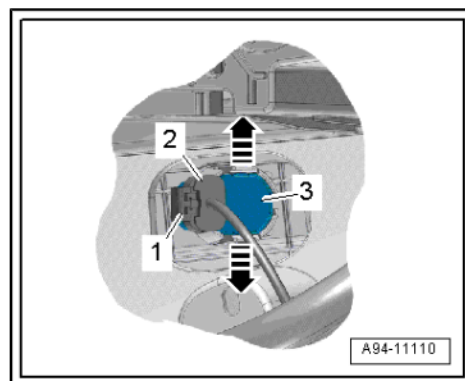


### 12.6.2 Removing and installing rear parking aid senders - vehicles from model year 2015 onwards

#### Removing

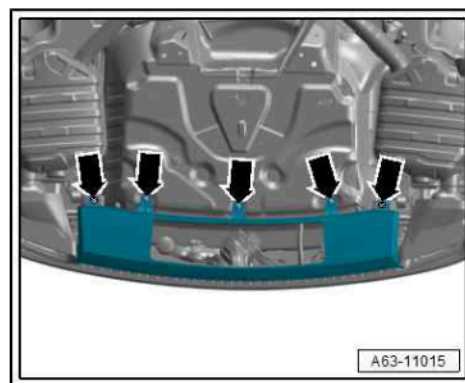
##### Outer senders:

- Remove rear bumper cover ⇒ General body repairs, exterior; Rep. gr. 63 ; Bumper (rear); Removing and installing bumper cover .
- Press both retaining tabs apart -arrows- and at the same time press out sender -3- from outside to inside.
- Unplug electrical connector -2- by sliding locking element -1- to rear and pressing down release catch.



##### Inner senders:

- Remove bolts -arrows- on bottom section of bumper cover.





- Reach behind bumper cover and press both retaining tabs apart -arrows-; at the same time press out sender -3- from outside to inside.



#### Note

*On vehicles with towing bracket, reach through the opening and press both retaining tabs apart; at the same time press sender from outside to inside.*

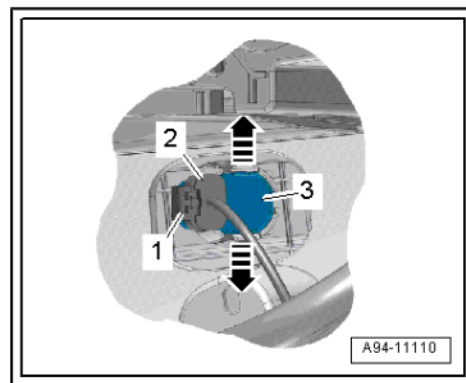
- Unplug electrical connector -2- by sliding locking element -1- to rear and pressing down release catch.

#### Installing

Installation is carried out in reverse order; note the following:

Lane change assist control unit -J769- / -J770- must be recalibrated whenever bumper cover has been removed

⇒ ["6.5 Calibrating lane change assist", page 367](#) .



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## 13 Park assist steering

⇒ "13.1 Overview - park assist steering", page 290

⇒ "13.3 Removing and installing front sender", page 291

⇒ "13.4 Removing and installing rear sender", page 291

### 13.1 Overview - park assist steering

1 - Front left sender for park assist steering on left side of vehicle - G568-

- ❑ Removing and installing  
⇒ [page 291](#)

2 - Front right sender for park assist steering on right side of vehicle - G569-

- ❑ Removing and installing  
⇒ [page 291](#)

3 - Rear right park assist steering sender - G717-

- ❑ Removing and installing  
⇒ [page 291](#)

4 - Park assist steering control unit - J791-

Vehicles up to model year 2014

- ❑ Integrated in parking aid control unit - J446-
- ❑ Removing and installing  
⇒ ["12.2 Removing and installing parking aid control unit J446", page 285](#)

Vehicles from model year 2015 onwards

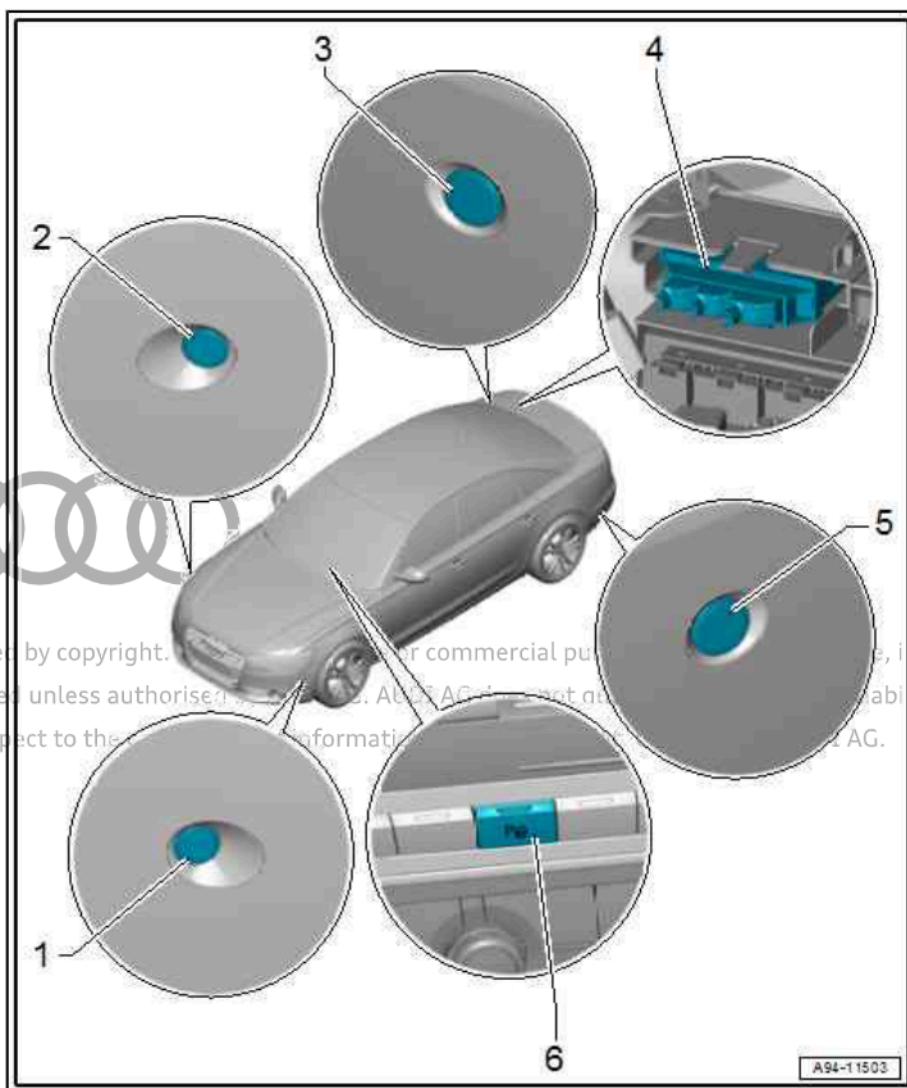
- ❑ Removing and installing  
⇒ [page 290](#)

5 - Rear left park assist steering sender - G716-

- ❑ Removing and installing  
⇒ [page 291](#)

6 - Park assist steering button - E581-

- ❑ Removing and installing ⇒ ["2.13 Removing and installing switches in dash panel", page 333](#)



### 13.2 Removing and installing park assist steering control unit - J791-

- If control unit is being renewed, select function "Replace" for corresponding control unit in "Guided Fault Finding" or "Guided Functions" mode ⇒ Vehicle diagnostic tester.



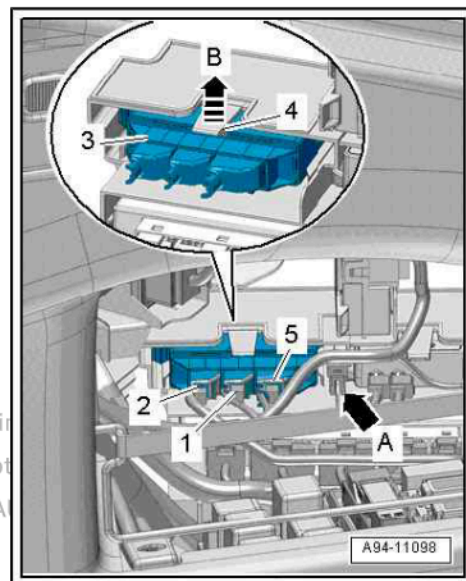


## Removing

- Remove cover for luggage compartment side trim (right-side).
- Move clear electrical wiring harness at retaining frame (bottom) -arrow A-.
- Unplug electrical connectors -1, 2, 5-.
- Release retaining spring -4- -arrow B- and pull control unit -3- out of retaining frame (bottom).

## Installing

Installation is carried out in reverse sequence.



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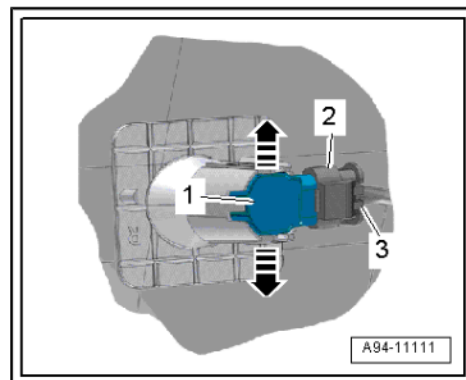
## 13.3 Removing and installing front sender

### Removing

- Remove front wheel spoiler ➤ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (front) .
- Press both retaining tabs apart -arrows- and at the same time press out sender -1- from outside to inside.
- Unplug electrical connector -2- by sliding locking element -3- to rear and pressing down release catch.

### Installing

Installation is carried out in reverse sequence.



## 13.4 Removing and installing rear sender

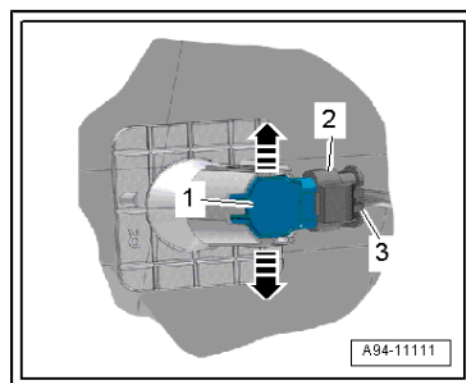
### Removing

- Remove rear bumper cover ➤ General body repairs, exterior; Rep. gr. 63 ; Bumper (rear); Removing and installing bumper cover .
- Press both retaining tabs apart -arrows- and at the same time press out sender -1- from outside to inside.
- Unplug electrical connector -2- by sliding locking element -3- to rear and pressing down release catch.

### Installing

Installation is carried out in reverse order; note the following:

Lane change assist control unit -J769- / -J770- must be recalibrated whenever bumper cover has been removed  
➔ ["6.5 Calibrating lane change assist", page 367](#) .





## 14 Automatic headlight range control

⇒ ["14.1 Overview - automatic headlight range control", page 292](#)

⇒ ["14.2 Removing and installing headlight range control unit", page 293](#)

### 14.1 Overview - automatic headlight range control

#### 1 - Front left vehicle level sender - G78-

- ❑ Fitting location: on suspension link (front)
- ❑ Removing and installing ⇒ Running gear, axles, steering; Rep. gr. 43 ; Vehicle level senders; Removing and installing front vehicle level senders -G78- / -G289-

#### 2 - Left headlight range control motor - V48-

- ❑ Removing and installing ⇒ [page 205](#)

#### 3 - Right headlight range control motor - V49-

- ❑ Removing and installing ⇒ [page 205](#)

#### 4 - Mounting

- ❑ For control unit for headlight range control - J431- / cornering light and headlight range control unit - J745-
- ❑ Removing and installing ⇒ ["1.7.3 Removing and installing mounting for relay carrier underneath dash panel \(driver's side\); onboard supply control unit J519", page 429](#)

#### 5 - Mounting

- ❑ For onboard supply control unit - J519- and relay carrier underneath dash panel (left-side)
- ❑ Exploded view ⇒ [page 405](#)

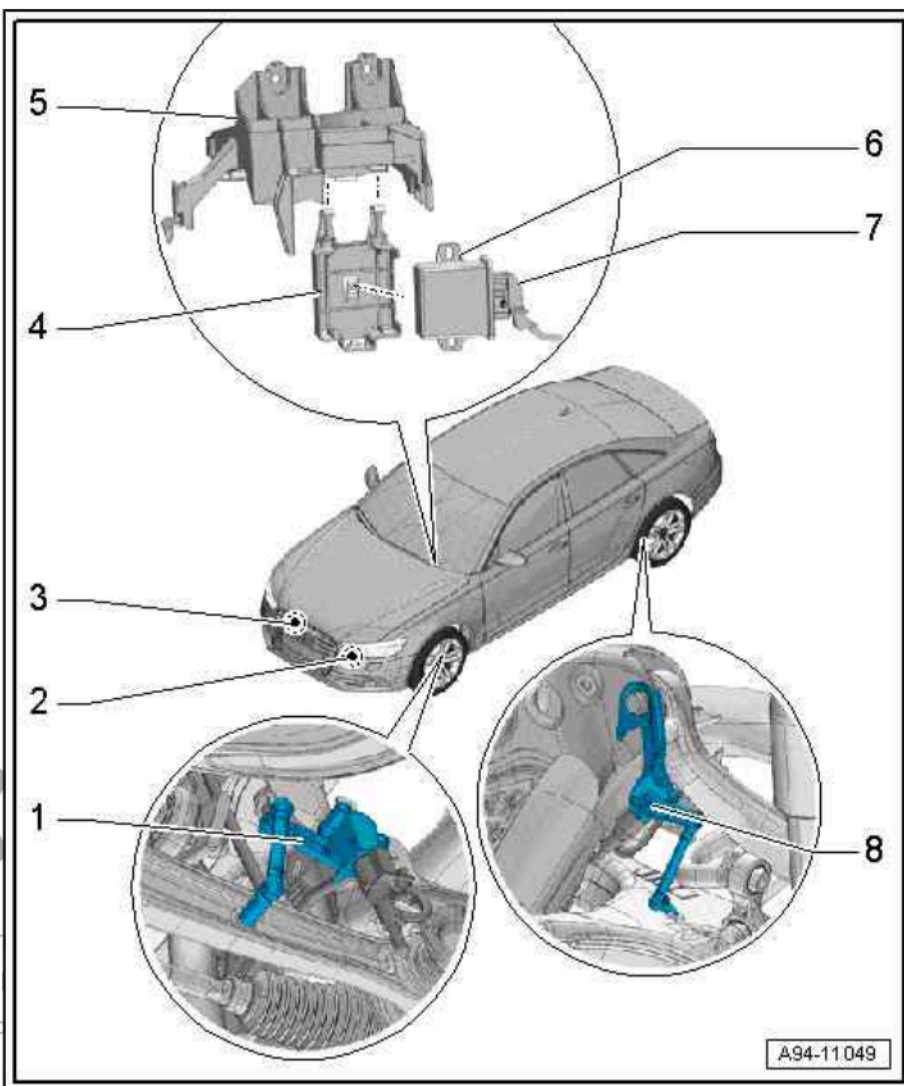
#### 6 - Control unit for headlight range control - J431- / cornering light and headlight range control unit - J745-

- ❑ Removing and installing ⇒ [page 293](#)

#### 7 - Electrical connector

#### 8 - Rear left vehicle level sender - G76-

- ❑ Fitting location: on suspension link (rear)
- ❑ Removing and installing ⇒ Running gear, axles, steering; Rep. gr. 43 ; Vehicle level senders; Removing and installing rear vehicle level senders -G76- / -G77-



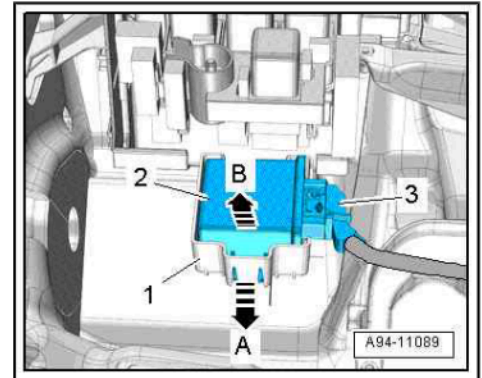


## 14.2 Removing and installing headlight range control unit

- If control unit is being renewed, select "Replace" function for corresponding control unit in "Guided Fault Finding" or "Guided Functions" ⇒ Vehicle diagnostic tester.

### Removing

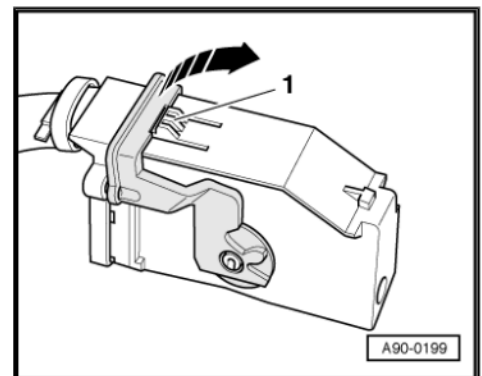
- Remove dash panel cover (driver side) ⇒ General body repairs, interior; Rep. gr. 68 ; Storage compartments/covers/trim panels; Removing and installing dash panel cover (driver side) .
- Release retaining tab -arrow A- and pull control unit -2- out of mounting -1- -arrow B-.
- Unplug electrical connector -3-.



- Unplug electrical connector by releasing catch -1- and moving retaining clip in direction of -arrow-.

### Installing

Installation is carried out in reverse sequence.



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## 96 – Lights, bulbs, switches - interior



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# 1 Lights

⇒ ["1.1 Overview of fitting locations - lights in dash panel", page 296](#)

⇒ ["1.2 Overview of fitting locations - lights in front doors", page 297](#)

⇒ ["1.3 Overview of fitting locations - lights in rear doors", page 298](#)

⇒ ["1.4 Overview of fitting locations - background lighting in doors", page 299](#)

⇒ ["1.5 Overview of fitting locations - lights in centre console", page 300](#)

⇒ ["1.6 Overview of fitting locations - lights in luggage compartment", page 302](#)

⇒ ["1.7 Overview of fitting locations - lights in roof trim", page 303](#)

⇒ ["1.8 Removing and installing glove compartment light W6 ", page 304](#)

⇒ ["1.9 Renewing bulb for glove compartment light W6 ", page 304](#)

⇒ ["1.10 Removing and installing footwell illumination bulb \(front\) L151 / L152 ", page 305](#)

⇒ ["1.11 Removing and installing central locking SAFELOCK function warning lamp K133 ", page 305](#)

⇒ ["1.12 Removing and installing door opener illumination bulb L108 / L109 ", page 306](#)

⇒ ["1.13 Removing and installing front entry light W31 / W32 ", page 306](#)

⇒ ["1.14 Removing and installing door warning lamp W30 / W36 ", page 307](#)

⇒ ["1.15 Removing and installing door opener illumination bulb L110 / L111 ", page 307](#)

⇒ ["1.16 Removing and installing rear entry light W33 / W34 ", page 308](#)

⇒ ["1.17 Removing and installing rear door warning lamp W37 / W38 ", page 308](#)

⇒ ["1.18 Removing and installing front door background lighting bulb L164 / L165 ", page 309](#)

⇒ ["1.19 Removing and installing door storage compartment illumination bulb L160 / L161 ", page 310](#)

⇒ ["1.20 Removing and installing rear door background lighting bulb L166 / L167 ", page 310](#)

⇒ ["1.21 Removing and installing rear ashtray illumination bulb L48 / L49 ", page 311](#)

⇒ ["1.22 Removing and installing rear door storage compartment illumination bulb L170 / L171 ", page 311](#)

⇒ ["1.23 Removing and installing selector lever position display Y26 ", page 311](#)

⇒ ["1.24 Removing and installing bulb for illuminated centre armrest L157 ", page 312](#)

⇒ ["1.25 Removing and installing light for rear centre console background lighting L197 / L198 ", page 312](#)





⇒ ["1.26 Removing and installing rear footwell light W45 / W46 "](#),  
[page 313](#)

⇒ ["1.27 Removing and installing luggage compartment light W3 "](#),  
[page 313](#)

⇒ ["1.28 Removing and installing illuminated vanity mirror W20 / W14 "](#),  
[page 315](#)

⇒ ["1.29 Renewing bulb for front interior light W1 / W13 / W19 "](#),  
[page 316](#)

⇒ ["1.30 Renewing bulb for rear interior light W47 / W48 "](#),  
[page 317](#)

⇒ ["1.31 Removing and installing LED for background lighting"](#),  
[page 317](#)

## 1.1 Overview of fitting locations - lights in dash panel

### 1 - Dash panel vent (centre)

- ❑ Versions equipped with dash panel central vent illumination bulb - L68- (left and right)
- ❑ Cannot be renewed separately if defective
- ❑ Renewing ⇒ General body repairs, interior; Rep. gr. 70 ; Dash panel; Removing and installing dash panel vents

### 2 - Front right footwell illumination bulb - L152-

- ❑ Removing and installing ⇒ [page 305](#)

### 3 - Glove compartment light - W6-

- ❑ 12 V, 5 W
- ❑ Removing and installing ⇒ [page 304](#)

### 4 - Dash panel right vent illumination bulb - L69-

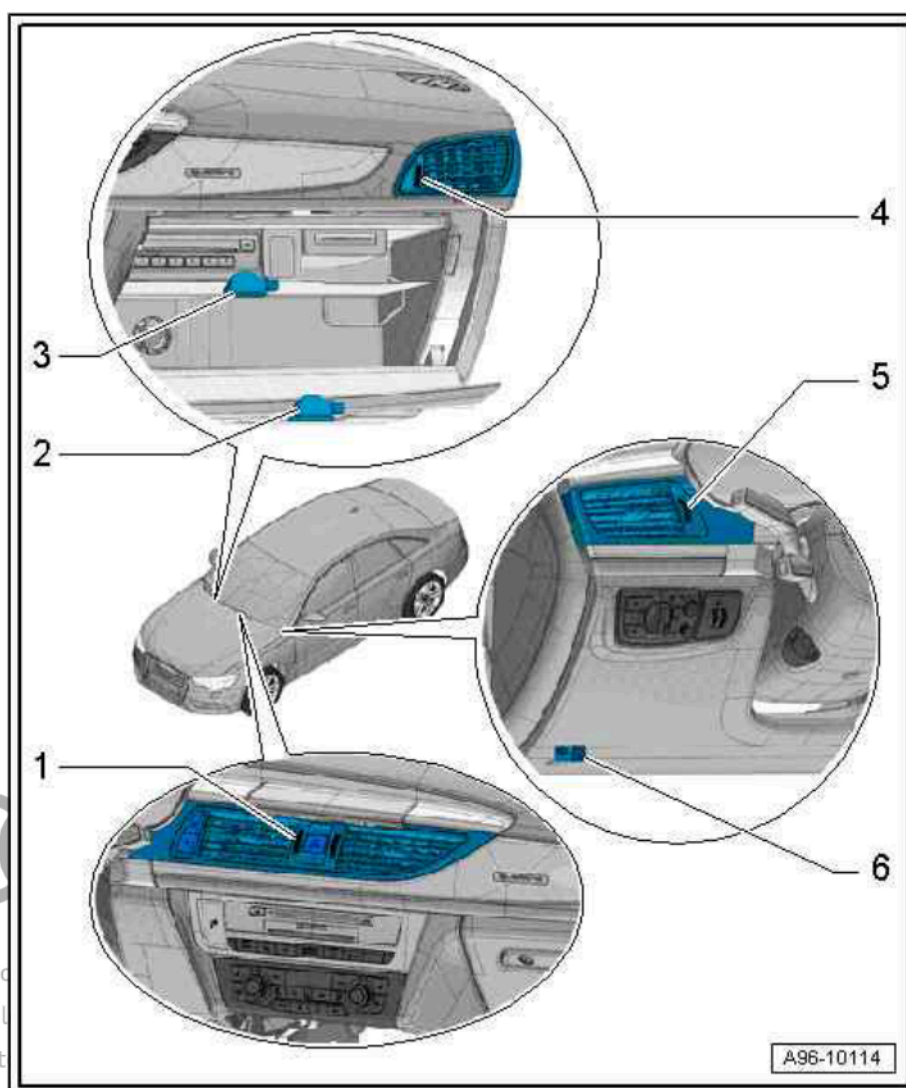
- ❑ Different versions
- ❑ Cannot be renewed separately if defective
- ❑ Renewing ⇒ General body repairs, interior; Rep. gr. 70 ; Dash panel; Removing and installing dash panel vents

### 5 - Dash panel left vent illumination bulb - L67-

- ❑ Different versions
- ❑ Cannot be renewed separately if defective
- ❑ Renewing ⇒ General body repairs, interior; Rep. gr. 70 ; Dash panel; Removing and installing dash panel vents

### 6 - Front left footwell illumination bulb - L151-

- ❑ Removing and installing ⇒ [page 305](#)





## 1.2 Overview of fitting locations - lights in front doors

1 - Driver door opener illumination bulb - L108-

- ❑ Removing and installing  
⇒ [page 306](#)

2 - Central locking SAFELOCK function warning lamp - K133-

- ❑ Removing and installing  
⇒ [page 305](#)

3 - Front passenger door opener illumination bulb - L109-

- ❑ Removing and installing  
⇒ [page 306](#)

4 - Front right entry light - W32-

- ❑ Removing and installing  
⇒ [page 306](#)

5 - Front passenger side door warning lamp - W36-

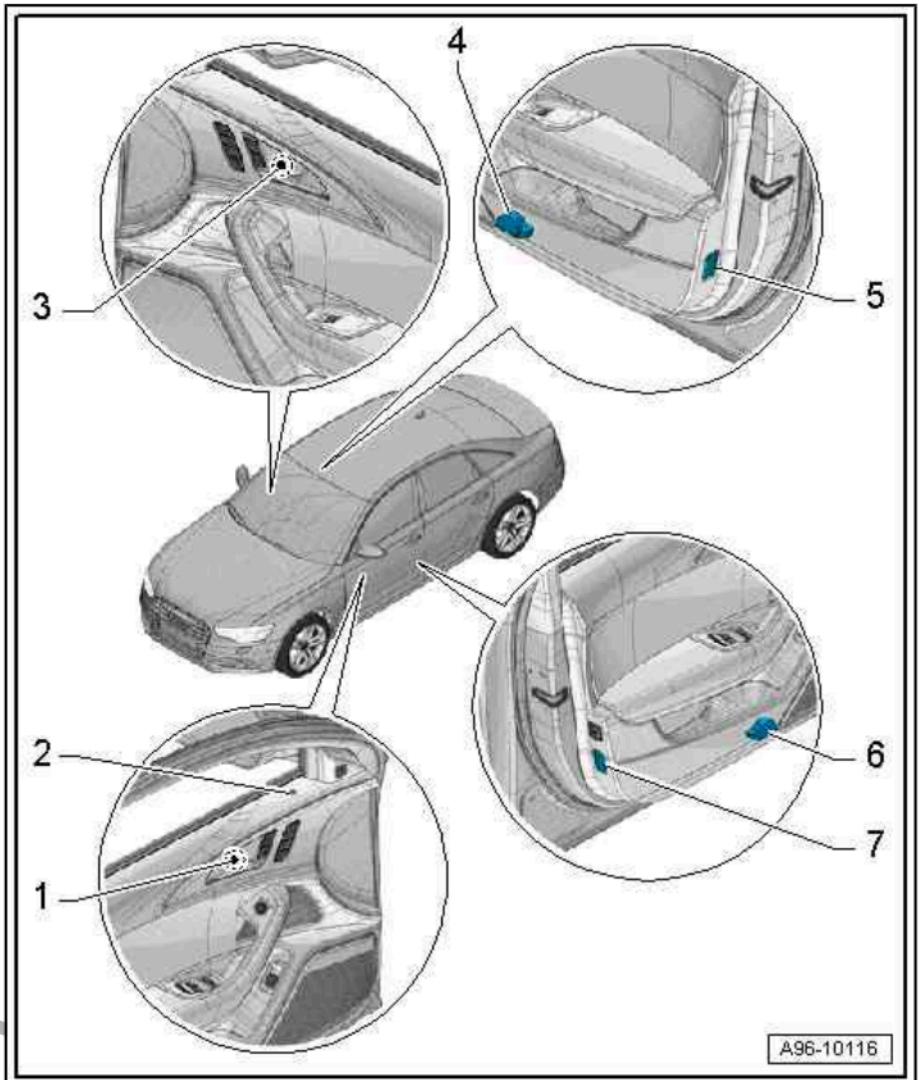
- ❑ 12 V, 3 W
- ❑ Removing and installing  
⇒ [page 307](#)

6 - Front left entry light - W31-

- ❑ Removing and installing  
⇒ [page 306](#)

7 - Driver side door warning lamp - W30-

- ❑ 12 V, 3 W
- ❑ Removing and installing  
⇒ [page 307](#)



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### 1.3 Overview of fitting locations - lights in rear doors

1 - Rear left ashtray illumination bulb - L48-

- ❑ Removing and installing  
⇒ [page 311](#)

2 - Rear left door opener illumination bulb - L110-

- ❑ Removing and installing  
⇒ [page 307](#)

3 - Rear right ashtray illumination bulb - L49-

- ❑ Removing and installing  
⇒ [page 311](#)

4 - Rear right door opener illumination bulb - L111-

- ❑ Removing and installing  
⇒ [page 307](#)

5 - Rear right entry light - W34-

- ❑ 12 V, 3 W
- ❑ Removing and installing  
⇒ [page 308](#)

6 - Rear right door warning lamp - W38-

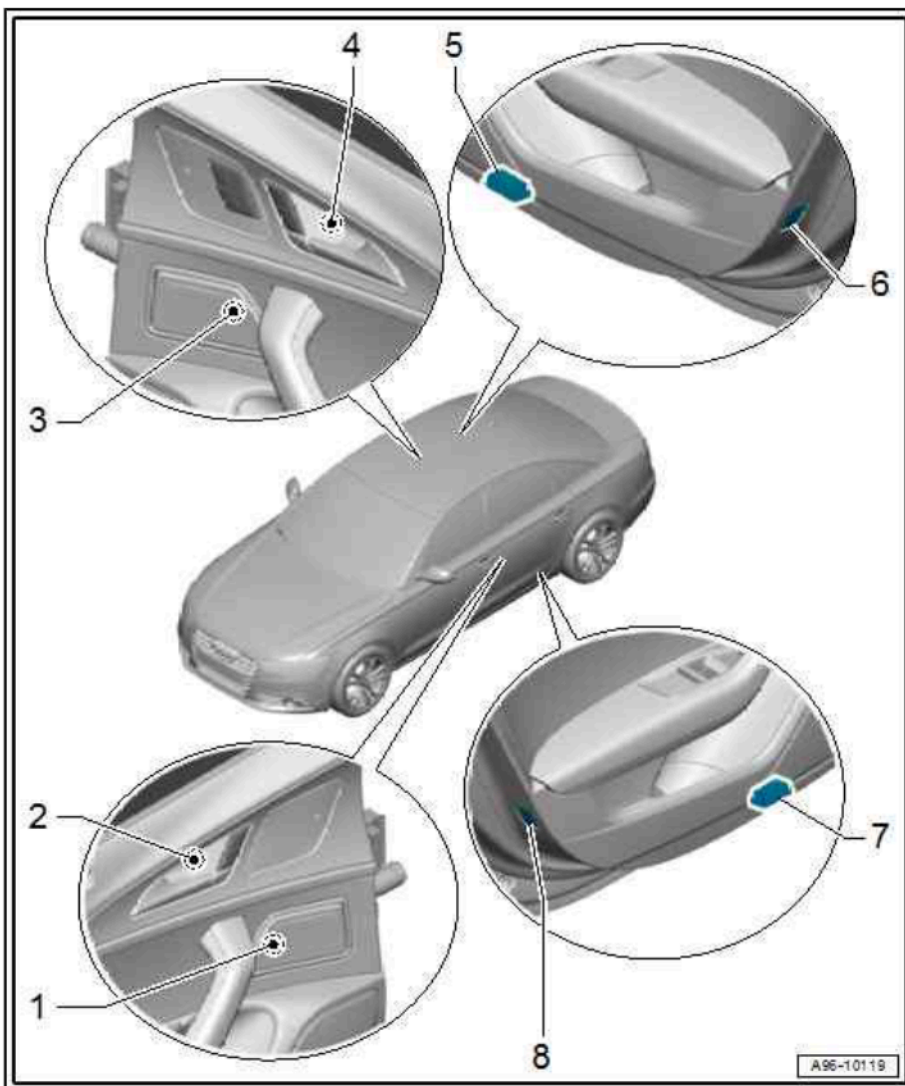
- ❑ 12 V, 3 W
- ❑ Removing and installing  
⇒ [page 308](#)

7 - Rear left entry light - W33-

- ❑ 12 V, 3 W
- ❑ Removing and installing  
⇒ [page 308](#)

8 - Rear left door warning lamp - W37-

- ❑ 12 V, 3 W
- ❑ Removing and installing ⇒ [page 308](#)







## 1.4 Overview of fitting locations - background lighting in doors

1 - Driver door storage compartment illumination bulb - L160-

- ❑ Removing and installing ⇒ [page 310](#)

2 - Driver door background lighting bulb - L164-

- ❑ Removing and installing ⇒ [page 309](#)

3 - Front passenger door storage compartment illumination bulb - L161-

- ❑ Removing and installing ⇒ [page 310](#)

4 - Front passenger door background lighting bulb - L165-

- ❑ Removing and installing ⇒ [page 309](#)

5 - Rear right door background lighting bulb - L167-

- ❑ Removing and installing ⇒ [page 310](#)

6 - Rear right ashtray illumination bulb - L49-

- ❑ Removing and installing ⇒ [page 311](#)

7 - Rear right door storage compartment illumination bulb - L171-

- ❑ Removing and installing ⇒ [page 311](#)

8 - Rear left door background lighting bulb - L166-

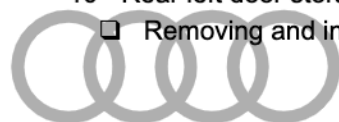
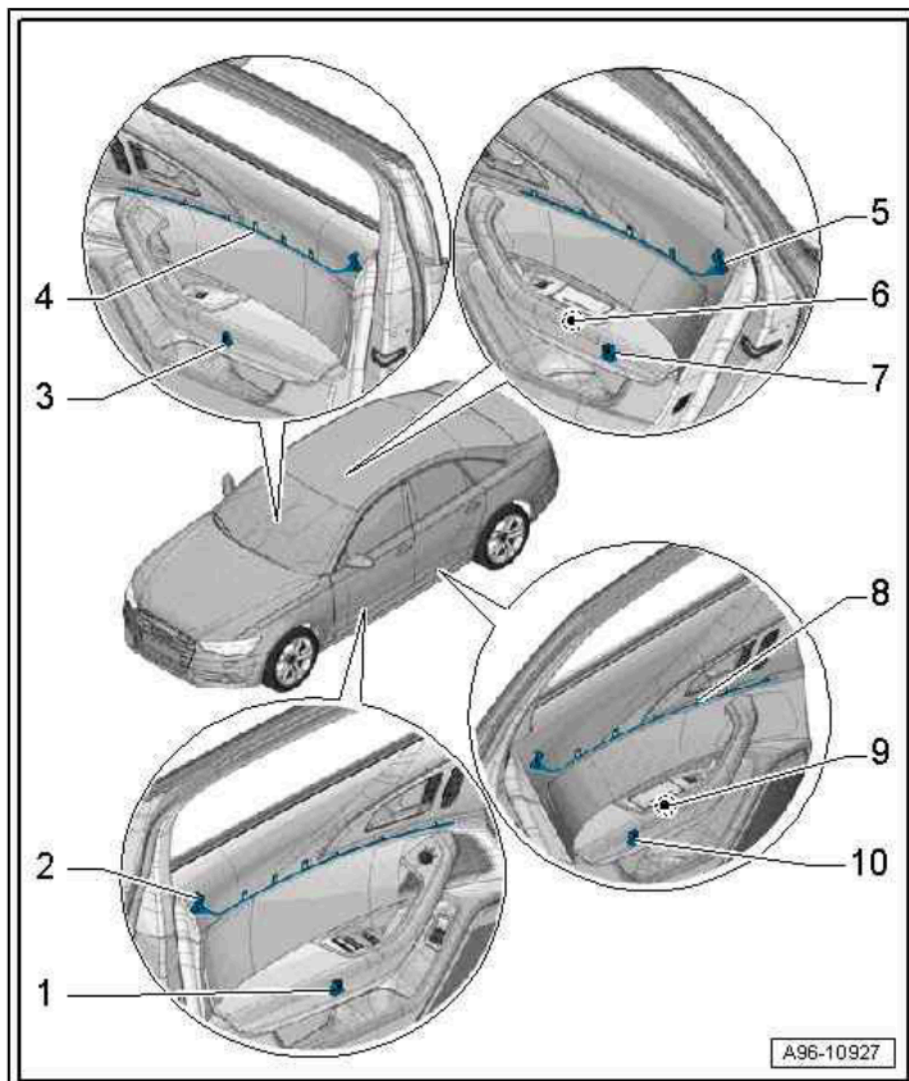
- ❑ Removing and installing ⇒ [page 310](#)

9 - Rear left ashtray illumination bulb - L48-

- ❑ Removing and installing ⇒ [page 311](#)

10 - Rear left door storage compartment illumination bulb - L170-

- ❑ Removing and installing ⇒ [page 311](#)



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## 1.5 Overview of fitting locations - lights in centre console

⇒ "1.5.1 Overview of fitting locations - lights in centre console",  
page 300

⇒ "1.5.2 Overview of fitting locations - lights in centre console,  
country-specific version", page 301

### 1.5.1 Overview of fitting locations - lights in centre console

1 - Rear left footwell light - W45-

- ☐ Removing and installing  
⇒ page 313

2 - Bulb for illuminated centre armrest - L157- (left-side)

- ☐ Removing and installing  
⇒ page 312

3 - Bulb for illuminated centre armrest - L157- (right-side)

- ☐ Removing and installing  
⇒ page 312

4 - Selector lever position display - Y26-

- ☐ Removing and installing  
⇒ page 311

5 - Vent in B-pillar (right-side)

- ☐ Versions equipped with rear right vent illumination bulb - L89-
- ☐ Cannot be renewed separately if defective
- ☐ Renewing ⇒ General body repairs, interior; Rep. gr. 70 ; Passenger compartment trim panels; Exploded view - B-pillar trim

6 - Central rear vent illumination bulb - L87-

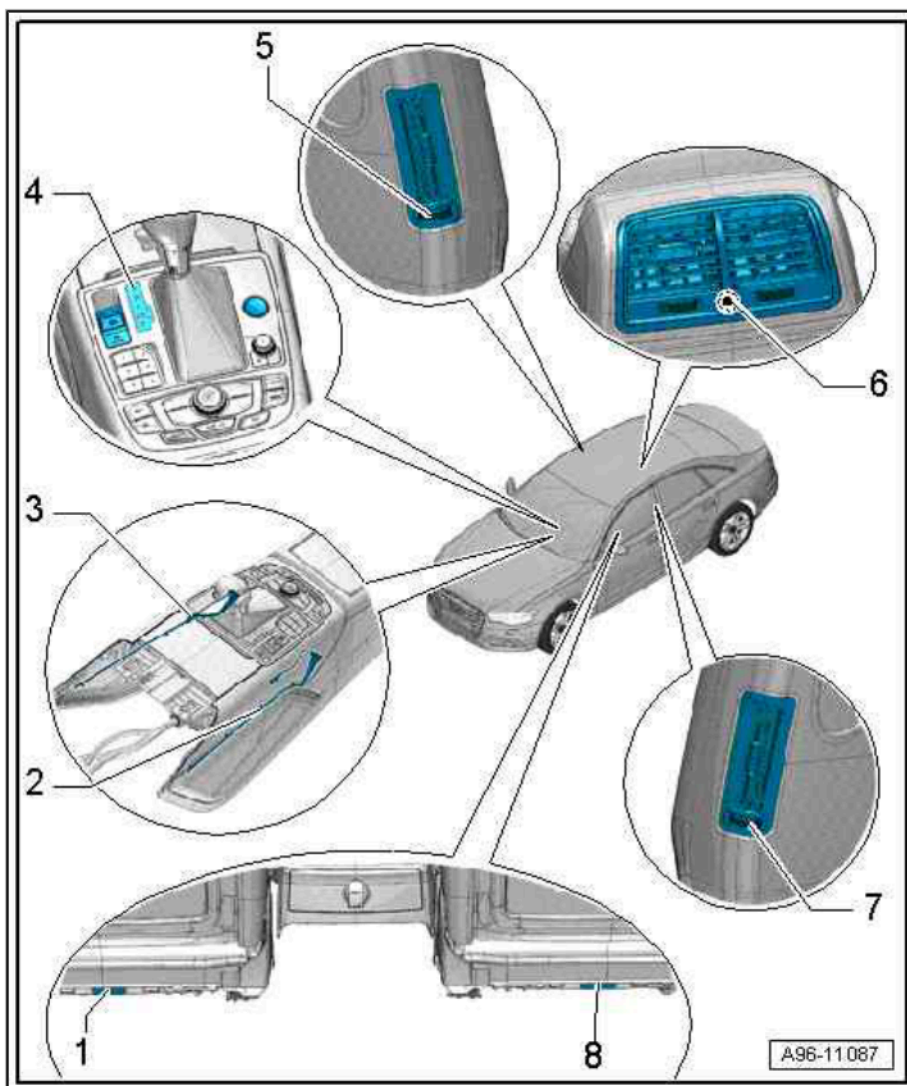
- ☐ Different versions
- ☐ Cannot be renewed separately if defective
- ☐ Renewing ⇒ General body repairs, interior; Rep. gr. 68 ; Centre console; Exploded view - centre console

7 - Vent in B-pillar (left-side)

- ☐ Versions equipped with rear left vent illumination bulb - L88-
- ☐ Cannot be renewed separately if defective
- ☐ Renewing ⇒ General body repairs, interior; Rep. gr. 70 ; Passenger compartment trim panels; Exploded view - B-pillar trim

8 - Rear right footwell light - W46-

- ☐ Removing and installing ⇒ page 313







## 1.5.2 Overview of fitting locations - lights in centre console, country-specific version

1 - Padding for centre armrest

2 - Light conductor (left-side)

❑ For background lighting

3 - Light conductor (right-side)

❑ For background lighting

4 - Lower section of armrest

5 - Light 2 for rear centre console background lighting - L198- (right-side)

❑ Removing and installing  
⇒ [page 312](#)

6 - Rear left seat massage function button - E409-

7 - Trim

❑ For centre armrest

8 - Rear right seat massage function button - E410-

9 - Trim (right-side)

❑ For rear seat massage function button

10 - Clip

❑ 3x

11 - Clip

❑ 3x

12 - Trim (left-side)

❑ For rear seat massage function button

13 - Centre armrest

14 - Contact switch for rear centre console background lighting - F501-

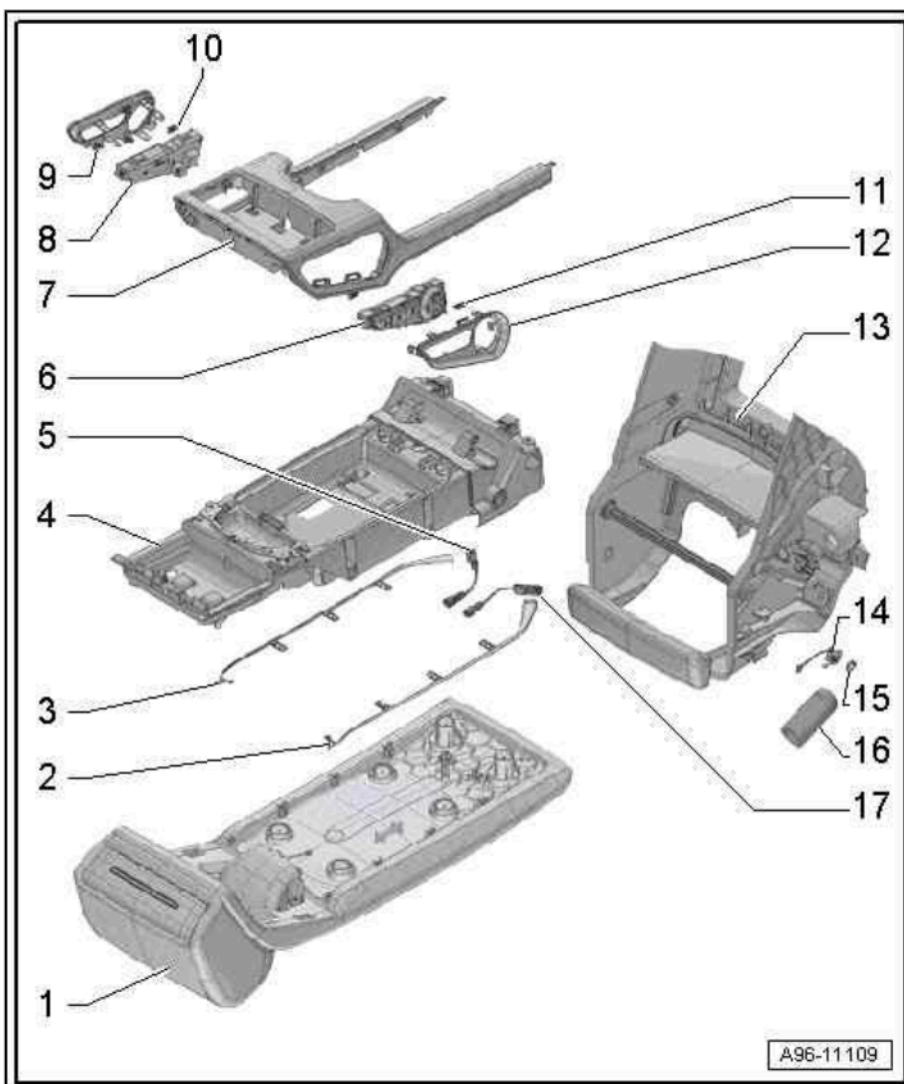
15 - Retaining clip

❑ 2x

16 - Grommet

17 - Light 1 for rear centre console background lighting - L197- (left-side)

❑ Removing and installing ⇒ [page 312](#)



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## 1.6 Overview of fitting locations - lights in luggage compartment

### 1 - Luggage compartment light - W3- - Avant

- ❑ In rear lid
- ❑ Removing and installing  
⇒ [page 314](#)

### 2 - Luggage compartment light - W3- - Avant

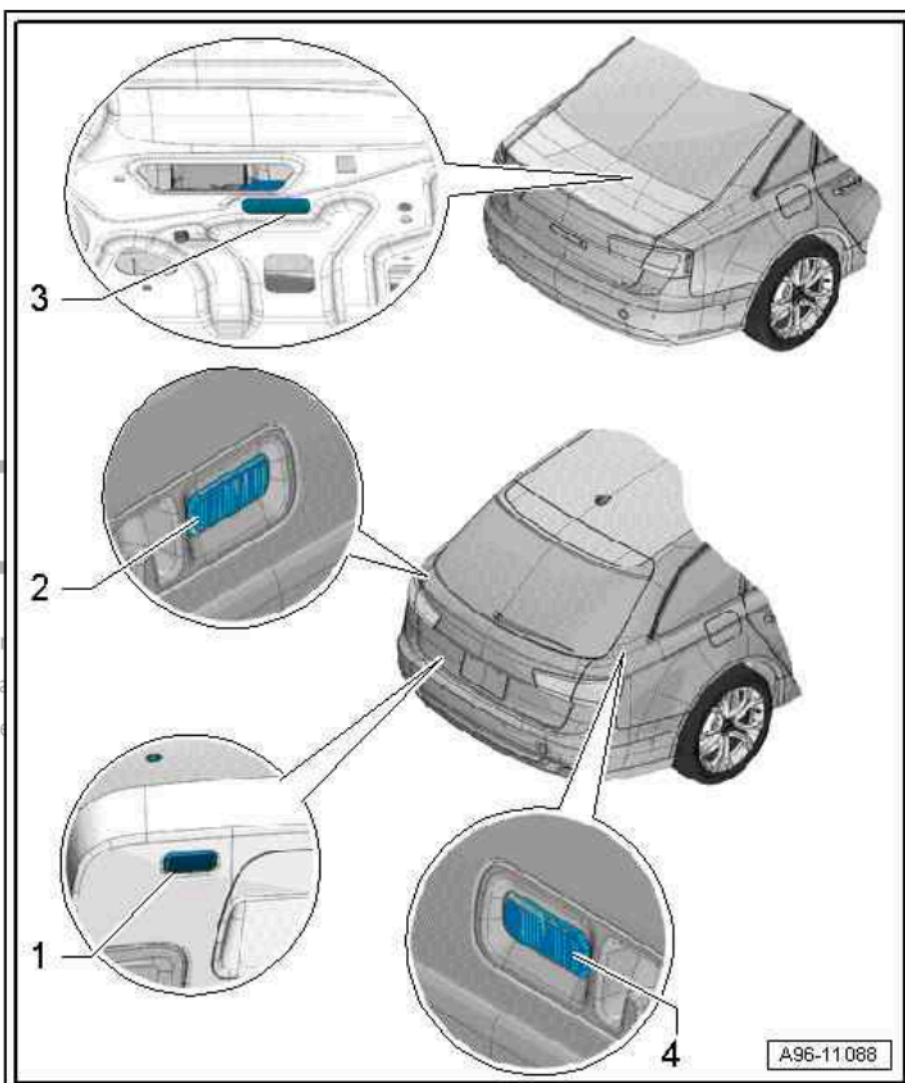
- ❑ In luggage compartment trim (left-side)
- ❑ 12 V, 5 W
- ❑ Removing and installing  
⇒ [page 314](#)

### 3 - Luggage compartment light - W3- - Saloon

- ❑ In luggage compartment trim (top)
- ❑ 12 V, 5 W
- ❑ Removing and installing  
⇒ [page 313](#)

### 4 - Luggage compartment light - W3- - Avant

- ❑ In luggage compartment trim (right-side)
- ❑ 12 V, 5 W
- ❑ Removing and installing  
⇒ [page 314](#)





## 1.7 Overview of fitting locations - lights in roof trim

1 - Driver side reading light - W19-

☐ Basic version

☐ Renewing ➔ [page 316](#)

2 - Front interior light - W1-

☐ Basic version

☐ Renewing ➔ [page 316](#)

3 - Front right reading light - W66-

☐ "Convenience" version

☐ If LED is defective, interior light/reading light (front) must be renewed

4 - Front left reading light - W65-

☐ "Convenience" version

☐ If LED is defective, interior light/reading light (front) must be renewed

5 - Front interior light - W1-

☐ "Convenience" version

☐ If LED is defective, interior light/reading light (front) must be renewed

6 - Front passenger side illuminated vanity mirror - W14-

☐ Removing and installing ➔ [page 315](#)

7 - Rear left interior light - W47-

Basic version

☐ Renewing ➔ [page 317](#)

"Convenience" version

☐ If LED is defective, rear interior light must be renewed

8 - Rear right interior light - W48-

Basic version

☐ Renewing ➔ [page 317](#)

"Convenience" version

☐ If LED is defective, rear interior light must be renewed

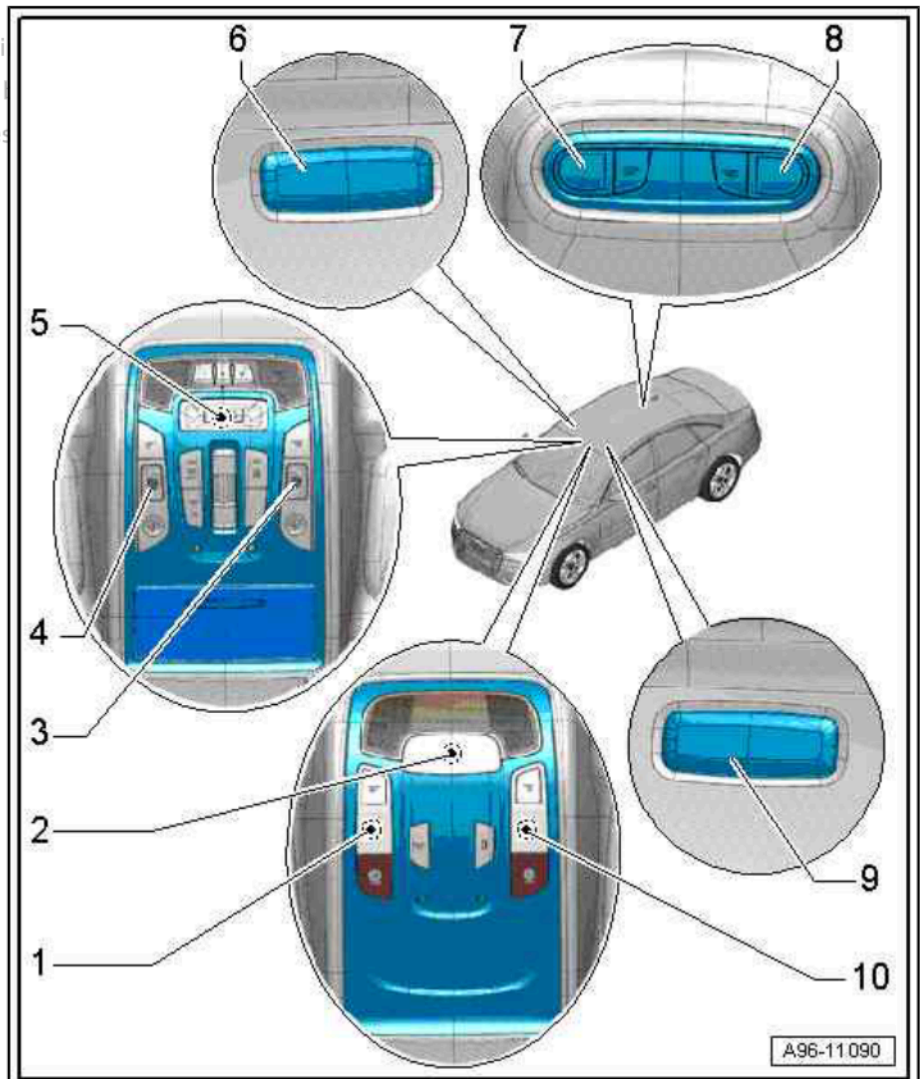
9 - Driver side illuminated vanity mirror - W20-

☐ Removing and installing ➔ [page 315](#)

10 - Front passenger reading light - W13-

☐ Basic version

☐ Renewing ➔ [page 316](#)





## 1.8 Removing and installing glove compartment light - W6-

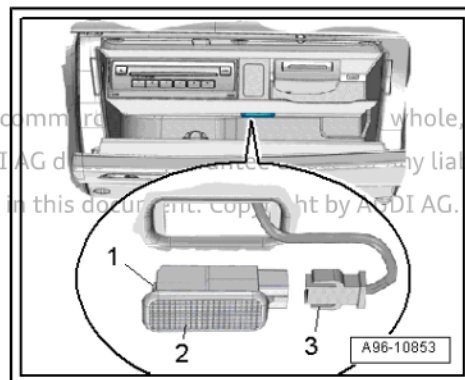
### Removing

- Turn light switch to position "0".
- Use a flat screwdriver to press in retaining tab -1- and pry out glove compartment light -2-.
- Unplug electrical connector -3-.

### Installing

Installation is carried out in reverse order; note the following:

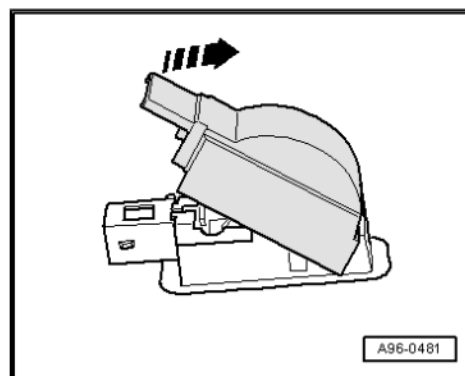
- Insert glove compartment light in opening and engage on opposite side.



## 1.9 Renewing bulb for glove compartment light - W6-

### Removing

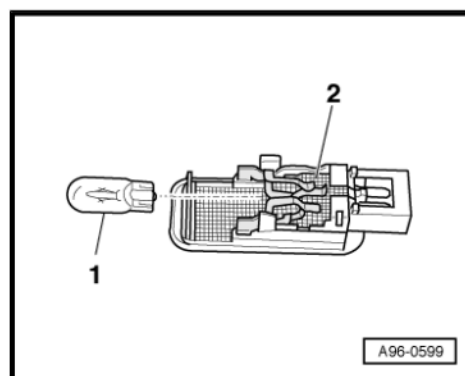
- Remove glove compartment light ⇒ [page 304](#) .
- Carefully prise off cover over bulb -arrow-.



- Remove bulb -1- from bulb holder -2- on reverse side of glove compartment light.

### Installing

Installation is carried out in reverse sequence.







## 1.10 Removing and installing footwell illumination bulb (front) -L151- / -L152-

### Removing

- Use a flat screwdriver to press in retaining tab -1- and pry out footwell light -2-.
- Unplug electrical connector -3-.

### Installing

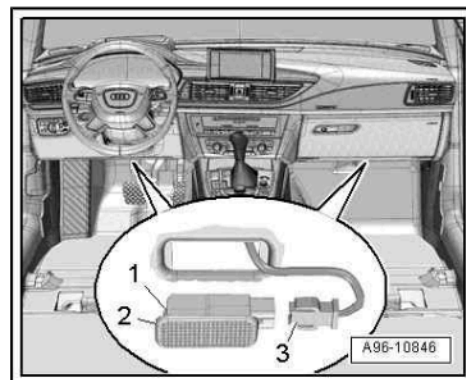
Installation is carried out in reverse order; note the following:



#### Note

*If the LED is defective, the complete footwell light must be renewed.*

- Insert footwell light in opening and engage on opposite side.



## 1.11 Removing and installing central locking SAFELOCK function warning lamp - K133-

### Removing

- Remove door trim (front) ⇒ General body repairs, interior; Rep. gr. 70 ; Door trim (front); Removing and installing door trim (front) .
- Release retaining clips -arrows-.
- Remove LED -1- for central locking downwards out of door trim -2-.

### Installing

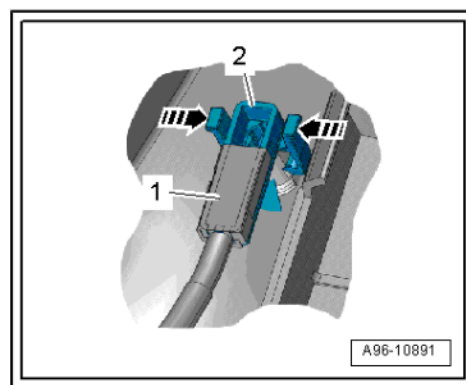
Installation is carried out in reverse order; note the following:



#### Note

*The new central locking SAFELOCK function warning lamp - K133- must be connected to the door trim wiring harness.*

- Cut through electrical wiring and re-connect with new wiring for central locking SAFELOCK function warning lamp - K133- ⇒ Electrical system; General information; Rep. gr. 97 ; Repairing wiring harnesses and connectors; Repairing wiring harnesses .



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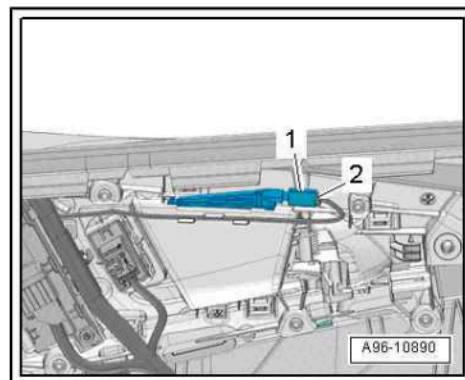
## 1.12 Removing and installing door opener illumination bulb - L108- / -L109-

### Removing

- Remove door trim (front) ⇒ General body repairs, interior; Rep. gr. 70 ; Door trim (front); Removing and installing door trim (front) .
- Turn bulb holder -2- anti-clockwise and pull out of light strip.
- Unplug electrical connector -1-.

### Installing

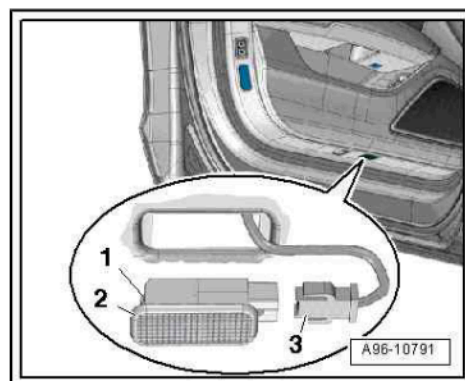
Installation is carried out in reverse sequence.



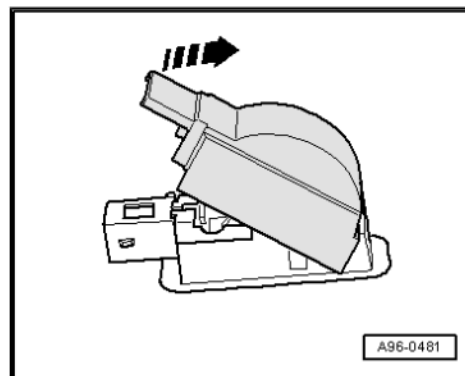
## 1.13 Removing and installing front entry light -W31- / -W32-

### Removing

- Use flat screwdriver to press in retaining tab -1- and pry out entry light -2-.
- Unplug electrical connector -3-.



- If fitted, carefully prise off cover over bulb -arrow-.



- Remove bulb -1- from bulb holder -2- on reverse side of door warning lamp.

### Installing

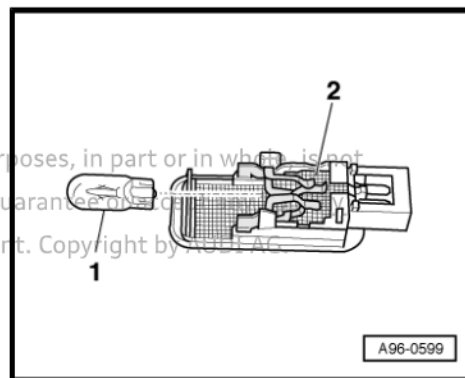
Installation is carried out in reverse order; note the following:



#### Note

*If the LED is defective, the complete entry light must be renewed.*

- Insert entry light in opening and engage on opposite side.

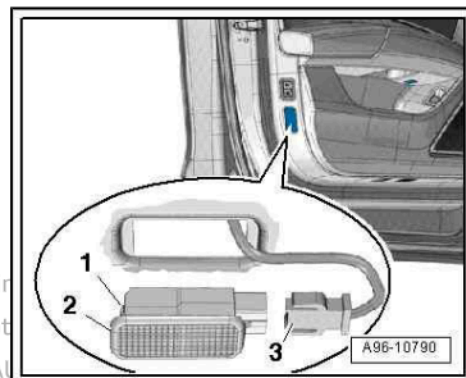




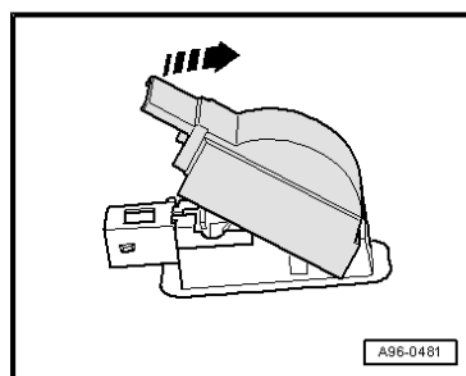
## 1.14 Removing and installing door warning lamp -W30- / -W36-

### Removing

- Use flat-bladed screwdriver to press in retaining tab -1- and pry out door warning lamp -2-.
- Unplug electrical connector -3-.



- Carefully prise off cover over bulb -arrow-.

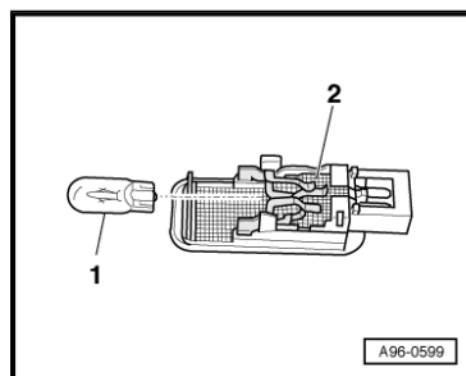


- Remove bulb -1- from bulb holder -2- on reverse side of door warning lamp.

### Installing

Installation is carried out in reverse order; note the following:

- Fit cover on door warning lamp.
- Insert door warning lamp in opening and engage on opposite side.



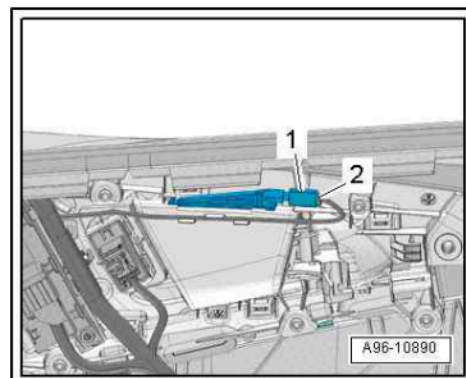
## 1.15 Removing and installing door opener illumination bulb -L110- / -L111-

### Removing

- Remove door trim (rear) ⇒ General body repairs, interior; Rep. gr. 70 ; Door trim (rear); Removing and installing door trim (rear) .
- Turn bulb holder -2- anti-clockwise and pull out of light strip.
- Unplug electrical connector -1-.

### Installing

Installation is carried out in reverse sequence.

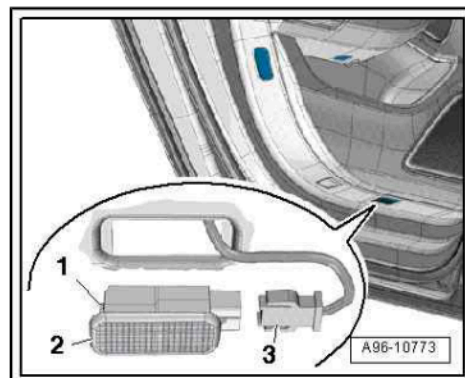




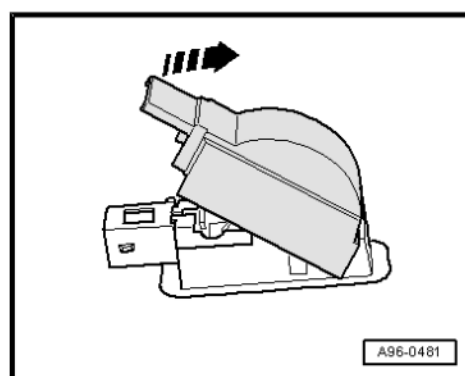
## 1.16 Removing and installing rear entry light -W33- / -W34-

### Removing

- Use flat screwdriver to press in retaining tab -1- and pry out entry light -2-.
- Unplug electrical connector -3-.



- If fitted, carefully prise off cover over bulb -arrow-.



- Remove bulb -1- from bulb holder -2- on reverse side of door warning lamp.

### Installing

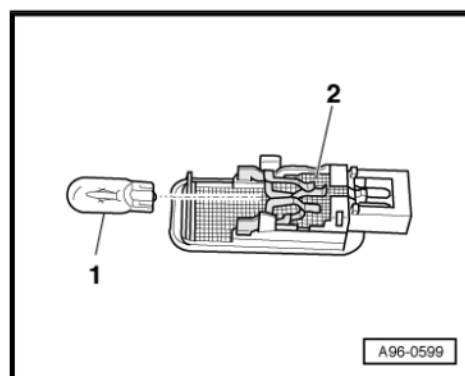
Installation is carried out in reverse order; note the following:



#### Note

*If the LED is defective, the complete entry light must be renewed.*

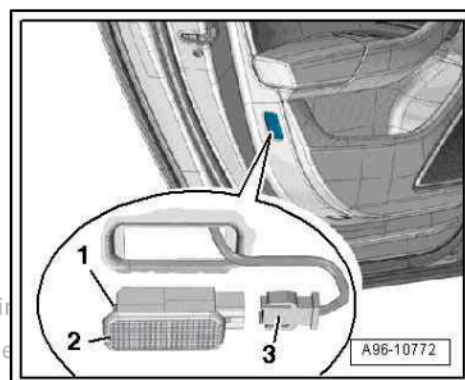
- Insert entry light in opening and engage on opposite side.



## 1.17 Removing and installing rear door warning lamp -W37- / -W38-

### Removing

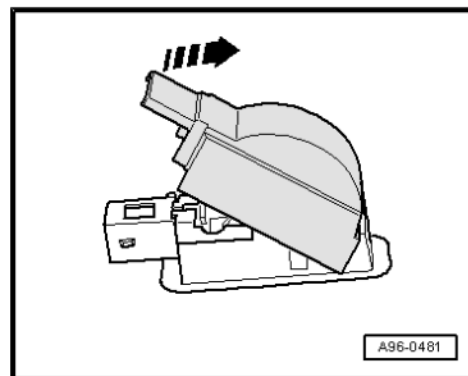
- Use flat-bladed screwdriver to press in retaining tab -1- and pry out door warning lamp -2-.
- Unplug electrical connector -3-.



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- If fitted, carefully prise off cover over bulb -arrow-.

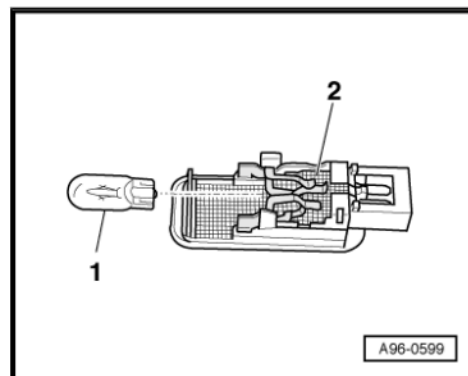


- Remove bulb -1- from bulb holder -2- on reverse side of door warning lamp.

#### Installing

Installation is carried out in reverse order; note the following:

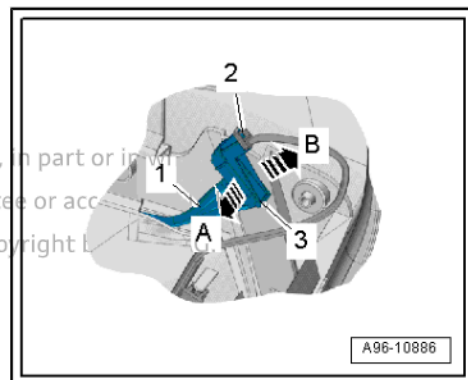
- Fit cover on door warning lamp.
- Insert door warning lamp in opening and engage on opposite side.



## 1.18 Removing and installing front door background lighting bulb -L164- / -L165-

#### Removing

- Remove door trim (front) ➔ General body repairs, interior; Rep. gr. 70 ; Door trim (front); Removing and installing door trim (front) .
- Pull bulb -3- off door trim -arrow A- and, at the same time, disengage from light strip -1- in direction of -arrow B-
- Unplug electrical connector -2-



#### Installing

Installation is carried out in reverse order; note the following:



#### Note

*If the LED is defective, the background lighting bulb must be renewed as a complete unit.*



## 1.19 Removing and installing door storage compartment illumination bulb -L160- / -L161-

### Removing

- Remove door trim (front) ⇒ General body repairs, interior; Rep. gr. 70 ; Door trim (front); Removing and installing door trim (front) .
- Release retaining clips -arrows-.
- Press door storage compartment illumination bulb -2- out of door trim -1-.
- Unplug electrical connector -3-.

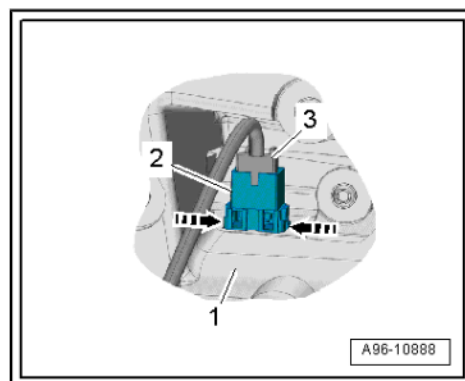
### Installing

Installation is carried out in reverse order; note the following:



#### Note

*If the LED is defective, the door storage compartment illumination bulb must be renewed as a complete unit.*



## 1.20 Removing and installing rear door background lighting bulb -L166- / -L167-

### Removing

- Remove door trim (rear) ⇒ General body repairs, interior; Rep. gr. 70 ; Door trim (rear); Removing and installing door trim (rear) .
- Pull bulb -3- off door trim -arrow A- and, at the same time, disengage from light strip -1- in direction of -arrow B-.
- Unplug electrical connector -2-.

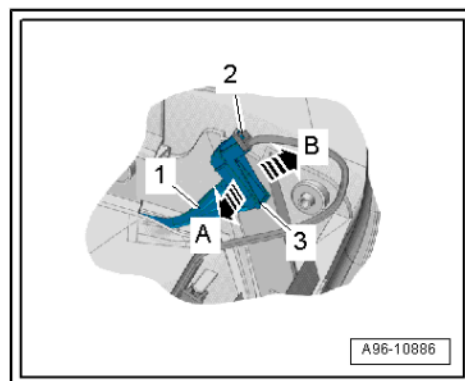
### Installing

Installation is carried out in reverse order; note the following:



#### Note

*If the LED is defective, the background lighting bulb must be renewed as a complete unit.*



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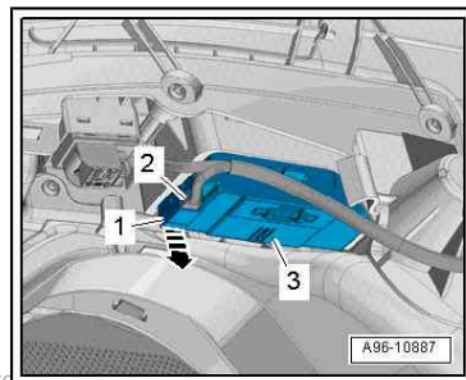
## 1.21 Removing and installing rear ashtray illumination bulb -L48- / -L49-

### Removing

- Remove door trim (rear) ⇒ General body repairs, interior; Rep. gr. 70 ; Door trim (rear); Removing and installing door trim (rear) .
- Move insulating mat in area of ashtray illumination bulb to side.
- Unplug electrical connector -2-.
- Pull ashtray illumination bulb -1- out of mounting -3- -arrow-.

### Installing

Installation is carried out in reverse sequence.



## 1.22 Removing and installing rear door storage compartment illumination bulb -L170- / -L171-

### Removing

- Remove door trim (rear) ⇒ General body repairs, interior; Rep. gr. 70 ; Door trim (rear); Removing and installing door trim (rear) .
- Release retaining clips -arrows-.
- Press door storage compartment illumination bulb -2- out of door trim -1-.
- Unplug electrical connector -3-.

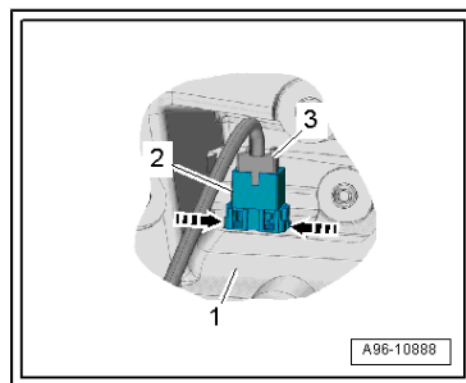
### Installing

Installation is carried out in reverse order; note the following:



#### Note

*If the LED is defective, the door storage compartment illumination bulb must be renewed as a complete unit.*



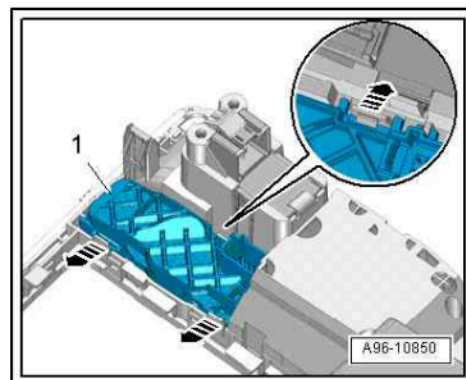
## 1.23 Removing and installing selector lever position display - Y26-

### Removing

- Remove multimedia system operating unit ⇒ Communication; Rep. gr. 91 ; Infotainment system; Removing and installing multimedia system operating unit - E380- .
- Release retaining tabs with a small screwdriver -arrows-.
- Detach selector lever position display -1- from operating unit.

### Installing

Installation is carried out in reverse sequence.





## 1.24 Removing and installing bulb for illuminated centre armrest - L157-

### Removing

- Remove centre console ⇒ General body repairs, interior; Rep. gr. 68 ; Centre console; Removing and installing centre console .
- Pull bulb -3- off centre console -arrow A- and, at the same time, disengage from light strip -1- in direction of -arrow B-.
- Unplug electrical connector -2-.

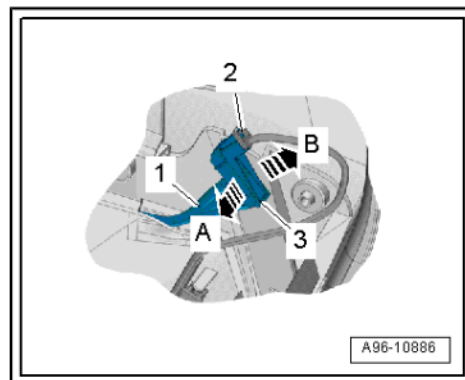
### Installing

Installation is carried out in reverse order; note the following:



#### Note

*If LED is defective, bulb for illuminated centre armrest must be renewed as a complete unit.*



## 1.25 Removing and installing light for rear centre console background lighting - L197- / -L198-

### Removing

- Remove lower section of armrest ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Exploded view - centre armrest .
- Remove padding for centre armrest ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Exploded view - centre armrest .
- Release retaining clips -1, 3- and move electrical connector -2- clear.
- Pull bulb -4- off padding -5- for centre armrest -arrow A- and, at the same time, disengage from light strip -6- in direction of -arrow B-.

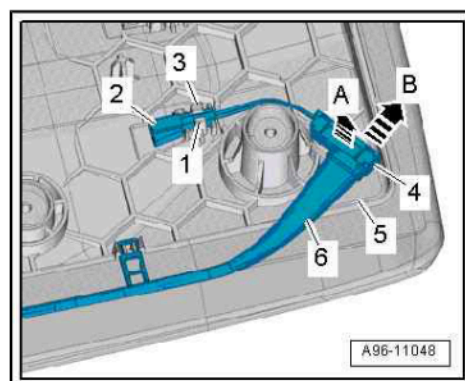
### Installing

Installation is carried out in reverse order; note the following:



#### Note

*If the LED is defective, the background lighting bulb must be renewed as a complete unit.*



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## 1.26 Removing and installing rear footwell light -W45- / -W46-

### Removing

- Use flat screwdriver to carefully pry out bulb -1- at recess -arrow-.
- Unplug electrical connector.

### Installing

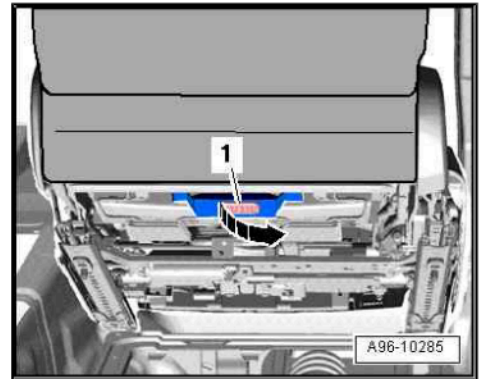
Installation is carried out in reverse order; note the following:



#### Note

*If the LED is defective, the complete footwell light must be renewed.*

- Insert footwell light in opening and engage on opposite side.



## 1.27 Removing and installing luggage compartment light - W3-

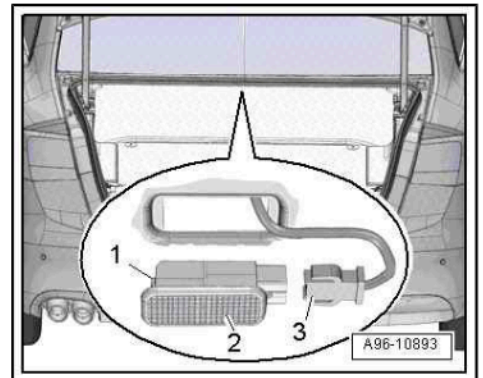
⇒ ["1.27.1 Removing and installing luggage compartment light W3 - Saloon", page 313](#)

⇒ ["1.27.2 Removing and installing luggage compartment light W3 - Avant", page 314](#)

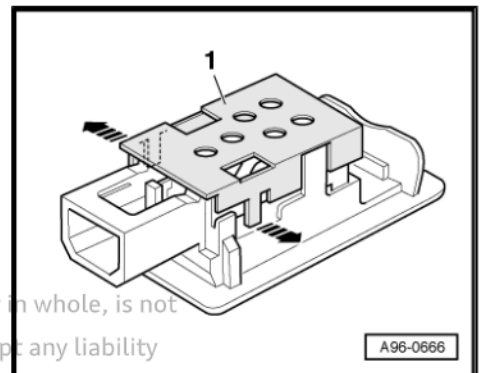
### 1.27.1 Removing and installing luggage compartment light - W3- - Saloon

#### Removing

- Use flat screwdriver to press in retainer tab -1- and pry out luggage compartment light -2-.
- Unplug electrical connector -3-.



- Release retaining clips -arrows- and carefully detach cover -1- over bulb.



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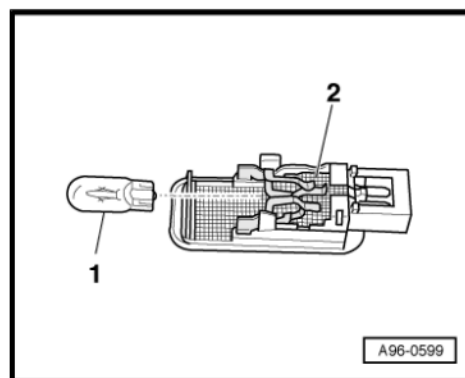


- Remove bulb -1- from bulb holder -2- on reverse side of luggage compartment light.

#### Installing

Installation is carried out in reverse order; note the following:

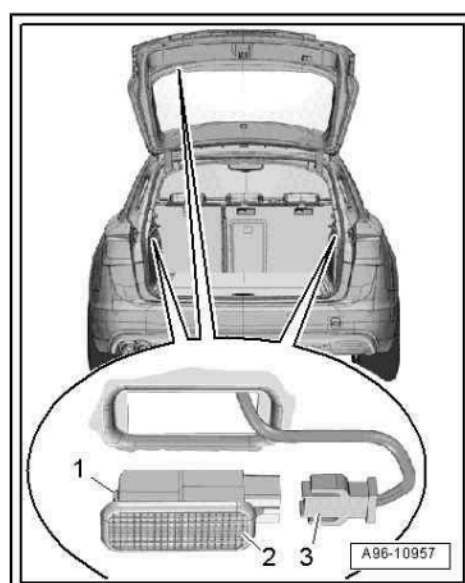
- Fit cover on luggage compartment light.
- Insert luggage compartment light in opening and engage on opposite side.



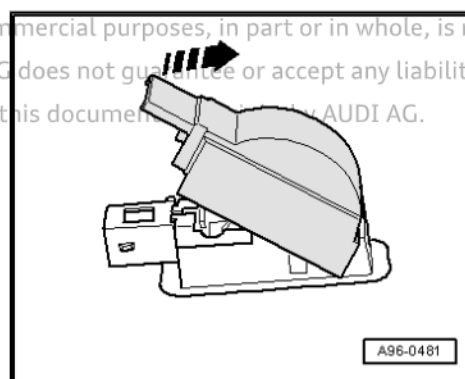
### 1.27.2 Removing and installing luggage compartment light - W3- - Avant

#### Removing

- Use flat screwdriver to press in retainer tab -1- and pry out luggage compartment light -2-.
- Unplug electrical connector -3-.



- Carefully prise off cover -1- over bulb -arrow-.



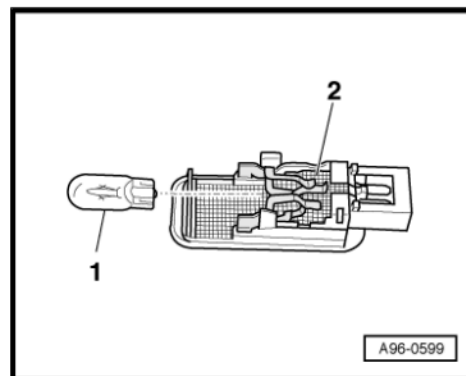


- Remove bulb -1- from bulb holder -2- on reverse side of luggage compartment light.

#### Installing

Installation is carried out in reverse order; note the following:

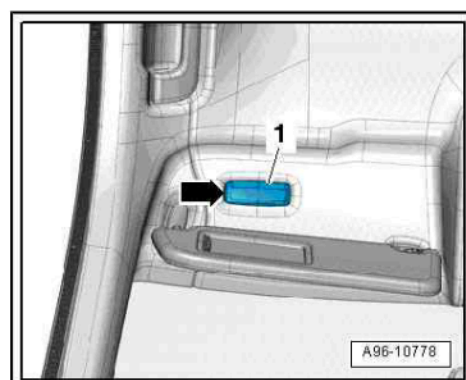
- Fit cover on luggage compartment light.
- Insert luggage compartment light in opening and engage on opposite side.



## 1.28 Removing and installing illuminated vanity mirror -W20- / -W14-

#### Removing

- Swivel sun visor forwards.
- Use flat screwdriver to carefully pry out vanity mirror light -1- at recess -arrow-.
- Unplug electrical connector.



- Detach cover -arrow- to renew bulb.
- Take bulb out of clamp-type holder.

#### Installing

Installation is carried out in reverse order; note the following:



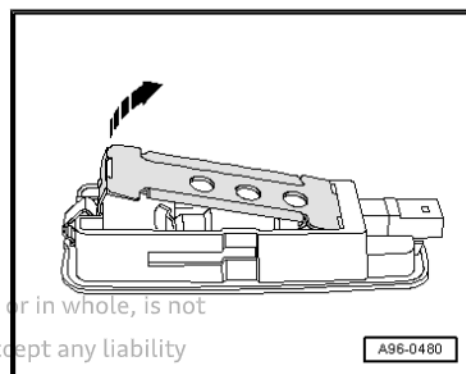
Note

**The vanity mirror light must be renewed as a complete unit if LED part or in whole, is not is defective.**

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- Insert vanity mirror light in opening and engage on opposite side.







## 1.29 Renewing bulb for front interior light - W1- / -W13- / -W19-

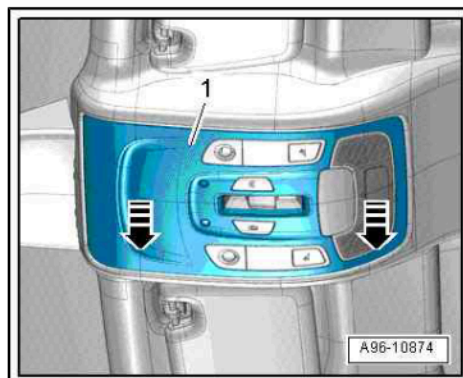
⇒ "1.29.1 Renewing bulb for front interior light W1 ", page 316

⇒ "1.29.2 Renewing bulbs for front reading light W13 / W19 ",  
page 316

### 1.29.1 Renewing bulb for front interior light - W1-

#### Removing

- Detach cover -1- for interior light downwards -arrows-.

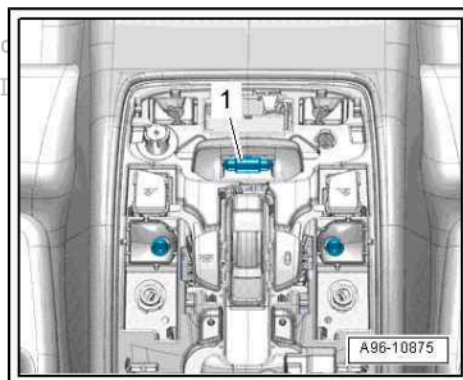


- Take bulb -1- out of clamp-type holder.

#### Installing

Installation is carried out in reverse order; note the following:

- Press on cover for interior light until it engages.



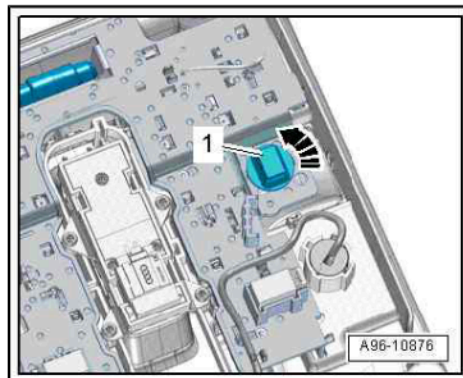
### 1.29.2 Renewing bulbs for front reading light - W13- / -W19-

#### Removing

- Remove interior light/reading light (front) ⇒ page 352 .
- Turn bulb holder -1- anti-clockwise -arrow- and take it out of interior light/reading light.
- Pull bulb out of bulb holder.

#### Installing

Installation is carried out in reverse sequence.





### 1.30 Renewing bulb for rear interior light - W47- / -W48-

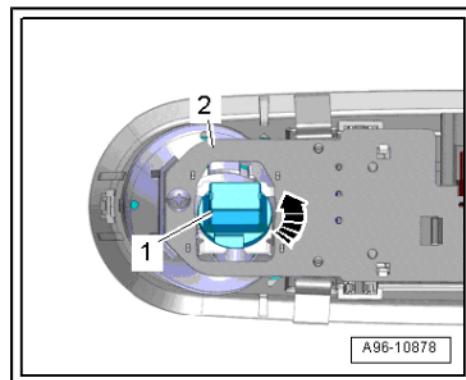
#### Removing

- Remove interior light/reading light (rear) ⇒ [page 353](#) .
- Turn bulb holder -1- anti-clockwise -arrow- and take it out of interior light/reading light -2-.
- Pull bulb out of bulb holder.

#### Installing

Installation is carried out in reverse order; note the following:

- Install interior light/reading light (rear) ⇒ [page 353](#) .



### 1.31 Removing and installing LED for back- ground lighting

The LED for background lighting is located in the interior light/reading light (front) and cannot be renewed separately if defective.

- Remove interior light/reading light (front) ⇒ [page 352](#) .



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## 2 Controls

⇒ [“2.1 Overview of fitting locations - controls in dash panel”, page 320](#)

⇒ [“2.2 Overview of fitting locations - controls in front doors”, page 323](#)

⇒ [“2.3 Overview of fitting locations - controls in rear doors”, page 324](#)

⇒ [“2.4 Overview of fitting locations - controls in centre console”, page 326](#)

⇒ [“2.5 Overview of fitting locations - controls in luggage compartment”, page 329](#)

⇒ [“2.6 Overview of fitting locations - controls in roof trim”, page 330](#)

⇒ [“2.7 Removing and installing light switch E1 ”, page 331](#)

⇒ [“2.8 Removing and installing switch and instrument illumination regulator E20 ”, page 331](#)

⇒ [“2.9 Removing and installing headlight range control regulator E102 ”, page 332](#)

⇒ [“2.10 Removing and installing rear fog light button E314 , fog light button E315 , button for night vision system E680 ”, page 332](#)

⇒ [“2.11 Removing and installing steering column adjustment switch E167 / steering wheel heater button E522 ”, page 332](#)

⇒ [“2.12 Removing and installing display unit button E462 / E506 ”, page 333](#)

⇒ [“2.13 Removing and installing switches in dash panel”, page 333](#)

⇒ [“2.14 Removing and installing hazard warning lights button E229 ”, page 334](#)

⇒ [“2.15 Removing and installing buttons for seat heating E653 / E654 ”, page 334](#)

⇒ [“2.16 Removing and installing valet parking button E536 ”, page 335](#)

⇒ [“2.17 Removing and installing glove compartment light switch E26 ”, page 335](#)

⇒ [“2.18 Removing and installing mirror adjustment switch E43 / E168 ”, page 336](#)

⇒ [“2.19 Removing and installing operating unit for window regulator in driver door E512 ”, page 336](#)

⇒ [“2.20 Removing and installing window regulator switch in front passenger door E107 ”, page 337](#)

⇒ [“2.21 Removing and installing interior locking switch E150 / E198 ”, page 337](#)

⇒ [“2.22 Removing and installing driver seat/front passenger seat memory operating unit E97 / E277 ”, page 338](#)

⇒ [“2.23 Removing and installing rear lid remote release button E233 / fuel tank flap release button E319 ”, page 339](#)

⇒ [“2.24 Removing and installing alarm system off switch E217 ”, page 339](#)

⇒ [“2.25 Removing and installing rear window regulator button in rear door”, page 340](#)



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⇒ "2.26 Removing and installing rear interior locking switch E273 / E274 ", page 341

⇒ "2.27 Removing and installing backrest adjustment button E425 / button for longitudinal adjustment of front passenger seat E603 ", page 341

⇒ "2.28 Removing and installing button for air ionisation system E677 ", page 342

⇒ "2.29 Removing and installing electromechanical parking brake button E538 / auto-hold button E540 ", page 343

⇒ "2.30 Removing and installing entry and start authorisation button E408 ", page 343

⇒ "2.31 Removing and installing heated rear seat switch with regulator E128 / E129 ", page 344

⇒ "2.32 Removing and installing button for cup holder E674 / E675 ", page 345

⇒ "2.33 Removing and installing contact switch for rear centre console background lighting F501 ", page 345

⇒ "2.34 Removing and installing rear seat massage function button E409 / E410 ", page 345

⇒ "2.35 Removing and installing release button for rear lid lock cylinder F248 ", page 347

⇒ "2.36 Removing and installing button to close rear lid in luggage compartment E406 ", page 349

⇒ "2.37 Removing and installing rear lid warning buzzer H32 ", page 350

⇒ "2.38 Removing and installing rear lid contact switch", page 351

⇒ "2.39 Removing and installing contact switch for vanity mirror F147 / F148 ", page 351

⇒ "2.40 Removing and installing sunroof button E325 ", page 351

⇒ "2.41 Removing and installing interior light/reading light (front)", page 352

⇒ "2.42 Removing and installing interior light/reading light (rear)", page 353

⇒ "2.43 Removing and installing front reading light button E633 / E634 ", page 353

⇒ "2.44 Removing and installing garage door operating unit E284 ", page 355

## 2.1 Overview of fitting locations - controls in dash panel





## 1 - Button in dash panel

- ❑ With start/stop operation button - E693-, park assist steering button - E581-, parking aid button - E266-, warning lamp for airbag deactivated on front passenger side - K145-, TCS and ESP button - E256-

- ❑ Removing and installing ➔ [page 333](#)

## 2 - Button for left seat heating - E653-

- ❑ Integrated in Climatronic control unit - J255- (may also be referred to as "front operating and display unit"). Cannot be renewed separately if defective
- ❑ Renewing Climatronic control unit - J255- ➔ Heating, air conditioning; Rep. gr. 87 ; Operating and display unit; Removing and installing operating and display unit

## 3 - Immobiliser reader coil - D2-

- ❑ Exploded view ➔ [page 278](#)

## 4 - Hazard warning lights button - E229-

- ❑ Removing and installing ➔ [page 334](#)

## 5 - Display unit button

- ❑ With open and close button for front display - E462- , display unit button - E506-
- ❑ Removing and installing ➔ [page 333](#)

## 6 - Glove compartment light switch - E26-

- ❑ Removing and installing ➔ [page 335](#)

## 7 - Valet parking button/key operated switch to deactivate airbag on front passenger side

- ❑ Different versions
- ❑ Removing and installing valet parking button - E536- ➔ [page 335](#)
- ❑ Removing and installing key operated switch to deactivate front passenger side airbag - E224- ➔ General body repairs, interior; Rep. gr. 69 ; Airbag (front passenger side); Removing and installing key operated switch to deactivate front passenger side airbag

## 8 - Headlight range control regulator - E102-

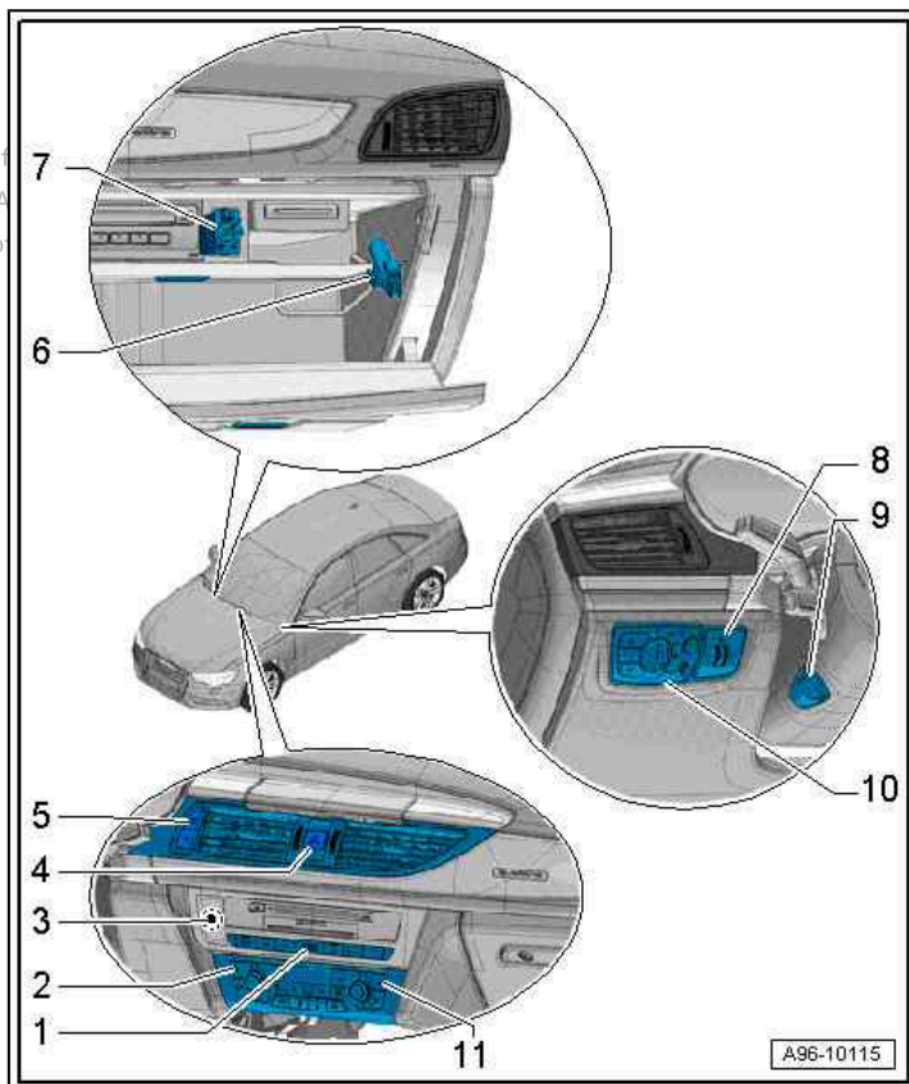
- ❑ Removing and installing ➔ [page 332](#)

## 9 - Steering column adjustment switch - E167-

- ❑ With steering wheel heater button - E522-
- ❑ Removing and installing ➔ [page 332](#)

## 10 - Light switch - E1-

- ❑ With switch and instrument illumination regulator - E20-
- ❑ With rear fog light button - E314- , fog light button - E315- , button for night vision system - E680-
- ❑ Removing and installing ➔ [page 331](#)



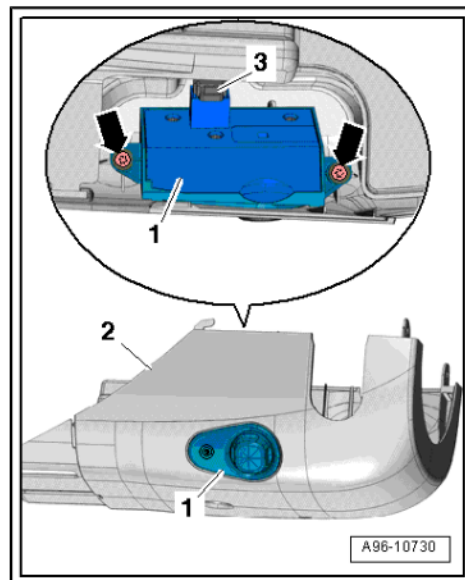


#### 11 - Button for right seat heating - E654-

- ❑ Integrated in Climatronic control unit - J255- (may also be referred to as "front operating and display unit"). Cannot be renewed separately if defective
- ❑ Renewing Climatronic control unit - J255- ⇒ Heating, air conditioning; Rep. gr. 87 ; Operating and display unit; Removing and installing operating and display unit

Tightening torque for steering column adjustment switch - E167- / steering wheel heater button - E522-

- Tighten bolts -arrows- to 1.5 Nm.



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## 2.2 Overview of fitting locations - controls in front doors

### 1 - Button

- ☐ Depending on equipment version: Rear lid remote release button - E233-
- ☐ e-tron: Fuel tank flap release button - E319-
- ☐ Removing and installing ➔ [page 339](#)

### 2 - Operating unit for window regulator in driver door - E512-

- ☐ With front left window regulator switch - E40- , front right window regulator switch, in driver door - E81- , rear left window regulator switch, in driver door - E53- , rear right window regulator switch, in driver door - E55- and child-proof lock button - E318- or button for left child-proof lock - E510- , correct
- ☐ Removing and installing ➔ [page 336](#)

### 3 - Mirror adjustment switch - E43- or adjustment switch for mirror with fold-in feature - E168-

- ☐ Removing and installing ➔ [page 336](#)

### 4 - Driver side interior locking switch - E150-

- ☐ Removing and installing ➔ [page 337](#)

### 5 - Driver seat memory operating unit - E97-

- ☐ Removing and installing ➔ [page 338](#)

### 6 - Button for lane change assist - E530-

- ☐ Exploded view ➔ [page 365](#)

### 7 - Window regulator switch in front passenger door - E107-

- ☐ Removing and installing ➔ [page 337](#)

### 8 - Front passenger seat memory operating unit - E277-

- ☐ Removing and installing ➔ [page 338](#)

### 9 - Front passenger side interior locking switch - E198-

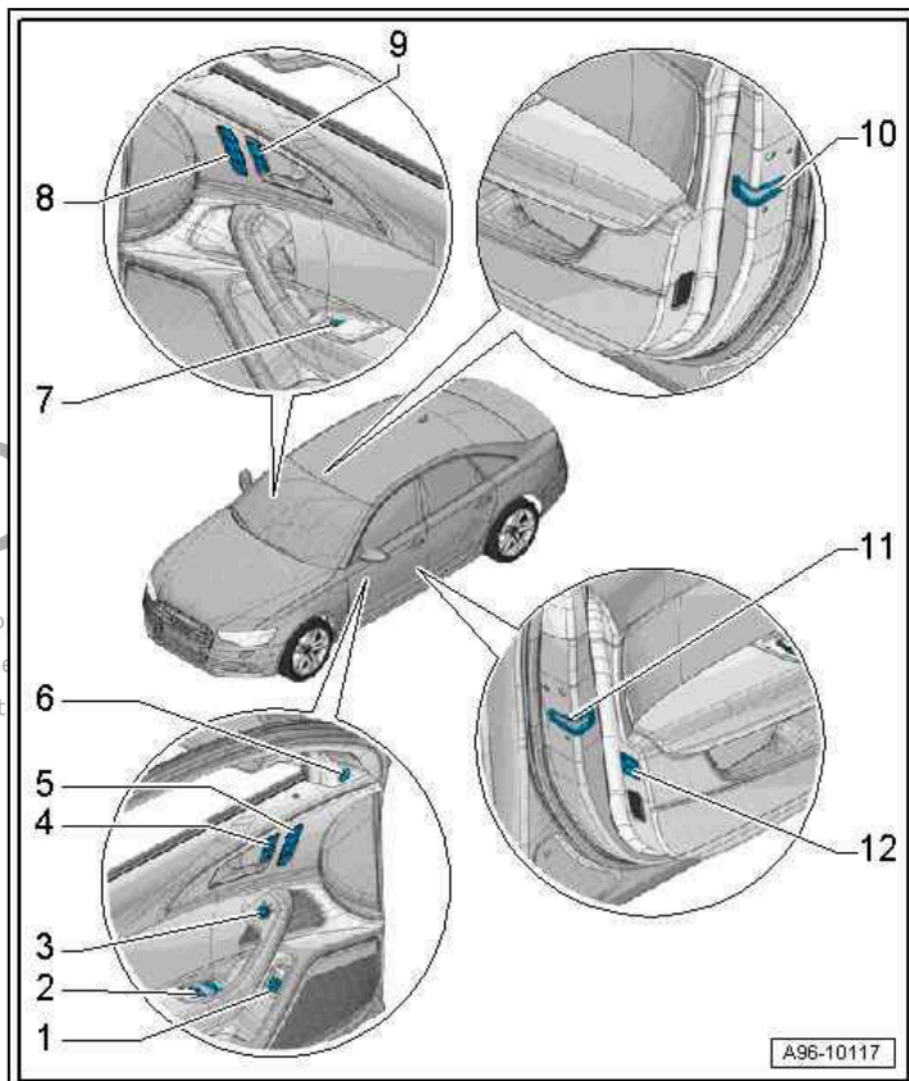
- ☐ Removing and installing ➔ [page 337](#)

### 10 - Front passenger door contact switch - F3-

- ☐ Integrated in door lock. Cannot be renewed separately if defective
- ☐ Renew door lock ➔ General body repairs, exterior; Rep. gr. 57 ; Door components; Removing and installing door lock

### 11 - Driver door contact switch - F2-

- ☐ Integrated in door lock. Cannot be renewed separately if defective







- ❑ Renew door lock ⇒ General body repairs, exterior; Rep. gr. 57 ; Door components; Removing and installing door lock

## 12 - Alarm system off switch - E217-

- ❑ Removing and installing ⇒ [page 339](#)

## 2.3 Overview of fitting locations - controls in rear doors

⇒ ["2.3.1 Overview of fitting locations - controls in rear doors", page 324](#)

⇒ ["2.3.2 Overview of fitting locations - controls in rear doors, country-specific version", page 325](#)

### 2.3.1 Overview of fitting locations - controls in rear doors

#### 1 - Rear left window regulator button in rear left door - E700-

- ❑ Versions equipped with rear right window regulator button in rear left door - E701-
- ❑ Removing and installing ⇒ [page 340](#)

#### 2 - Rear left interior locking switch - E273-

- ❑ Removing and installing ⇒ [page 341](#)

#### 3 - Rear right window regulator button in rear right door - E705-

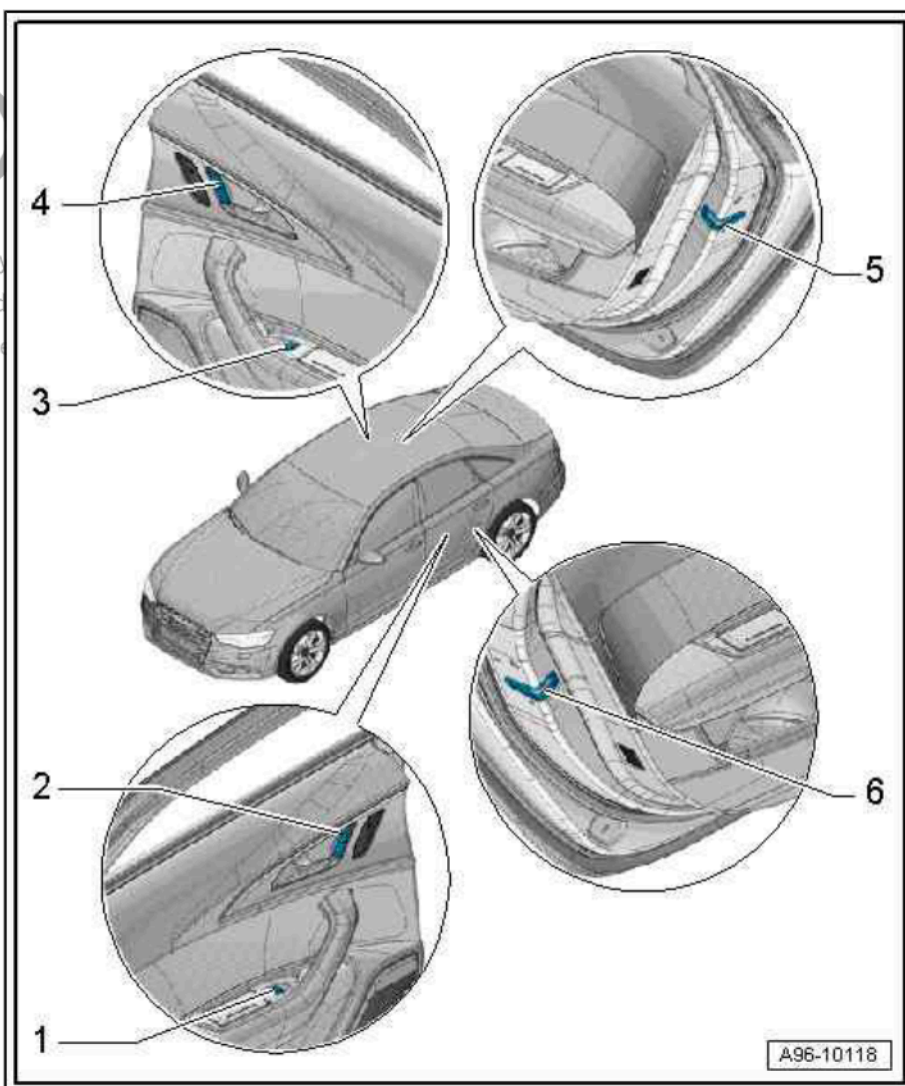
- ❑ Versions equipped with rear left window regulator button in rear right door - E706-
- ❑ Removing and installing ⇒ [page 340](#)

#### 4 - Rear right interior locking switch - E274-

- ❑ Removing and installing ⇒ [page 341](#)

#### 5 - Rear right door contact switch - F11-

- ❑ Integrated in door lock. Cannot be renewed separately if defective
- ❑ Renew door lock ⇒ General body repairs, exterior; Rep. gr. 58 ; Door components; Removing and installing door lock



#### 6 - Rear left door contact switch - F10-

- ❑ Integrated in door lock. Cannot be renewed separately if defective
- ❑ Renew door lock ⇒ General body repairs, exterior; Rep. gr. 58 ; Door components; Removing and installing door lock



## 2.3.2 Overview of fitting locations - controls in rear doors, country-specific version

### 1 - Rear left window regulator buttons

- ❑ With rear left window regulator button in rear left door - E700- , rear right window regulator button in rear left door - E701- , sunroof button in rear left door - E702- , sunroof roller blind button in rear left door - E703- and rear roller blind button in rear left door - E699-

- ❑ Removing and installing ➔ [page 340](#)

### 2 - Rear left interior locking switch - E273-

- ❑ Removing and installing ➔ [page 341](#)

### 3 - Rear right window regulator buttons

- ❑ With rear right window regulator button in rear right door - E705- , rear left window regulator button in rear right door - E706- , sunroof button in rear right door - E707- , sunroof roller blind button in rear right door - E708- and rear roller blind button in rear right door - E704-

- ❑ Removing and installing ➔ [page 340](#)

### 4 - Button for longitudinal adjustment of front passenger seat - E603-

- ❑ Removing and installing ➔ [page 341](#)

### 5 - Backrest adjustment button - E425-

- ❑ Removing and installing ➔ [page 341](#)

### 6 - Rear right interior locking switch - E274-

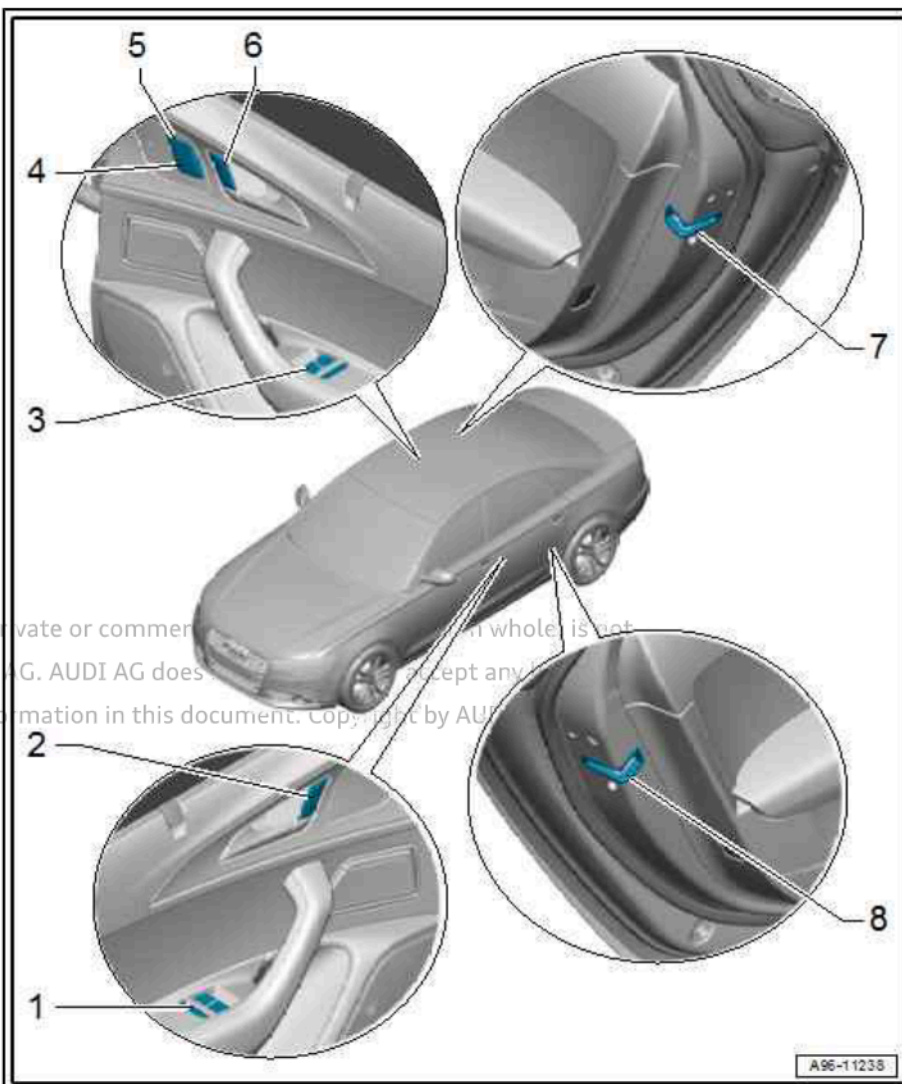
- ❑ Removing and installing ➔ [page 341](#)

### 7 - Rear right door contact switch - F11-

- ❑ Integrated in door lock. Cannot be renewed separately if defective
- ❑ Renew door lock ➔ General body repairs, exterior; Rep. gr. 58 ; Door components; Removing and installing door lock

### 8 - Rear left door contact switch - F10-

- ❑ Integrated in door lock. Cannot be renewed separately if defective
- ❑ Renew door lock ➔ General body repairs, exterior; Rep. gr. 58 ; Door components; Removing and installing door lock



A96-11235





## 2.4 Overview of fitting locations - controls in centre console

⇒ ["2.4.1 Overview of fitting locations - controls in centre console", page 326](#)

⇒ ["2.4.2 Overview of fitting locations - controls in centre console, version 1 \(country-specific version\)", page 327](#)

### 2.4.1 Overview of fitting locations - controls in centre console

1 - Entry and start authorisation button - E408-

- ❑ Removing and installing  
⇒ [page 343](#)

2 - Electromechanical parking brake button - E538-

- ❑ Versions equipped with auto-hold button - E540-
- ❑ Removing and installing  
⇒ [page 343](#)

3 - Heated rear right seat switch with regulator - E129-

- ❑ Removing and installing  
⇒ [page 344](#)

4 - Potentiometer for rear temperature selection - G538-

- ❑ Country-specific and different versions
- ❑ Combined as one component with trim; cannot be renewed separately
- ❑ Renewing ⇒ General body repairs, interior; Rep. gr. 68 ; Centre console; Exploded view - centre console

5 - Heated rear left seat switch with regulator - E128-

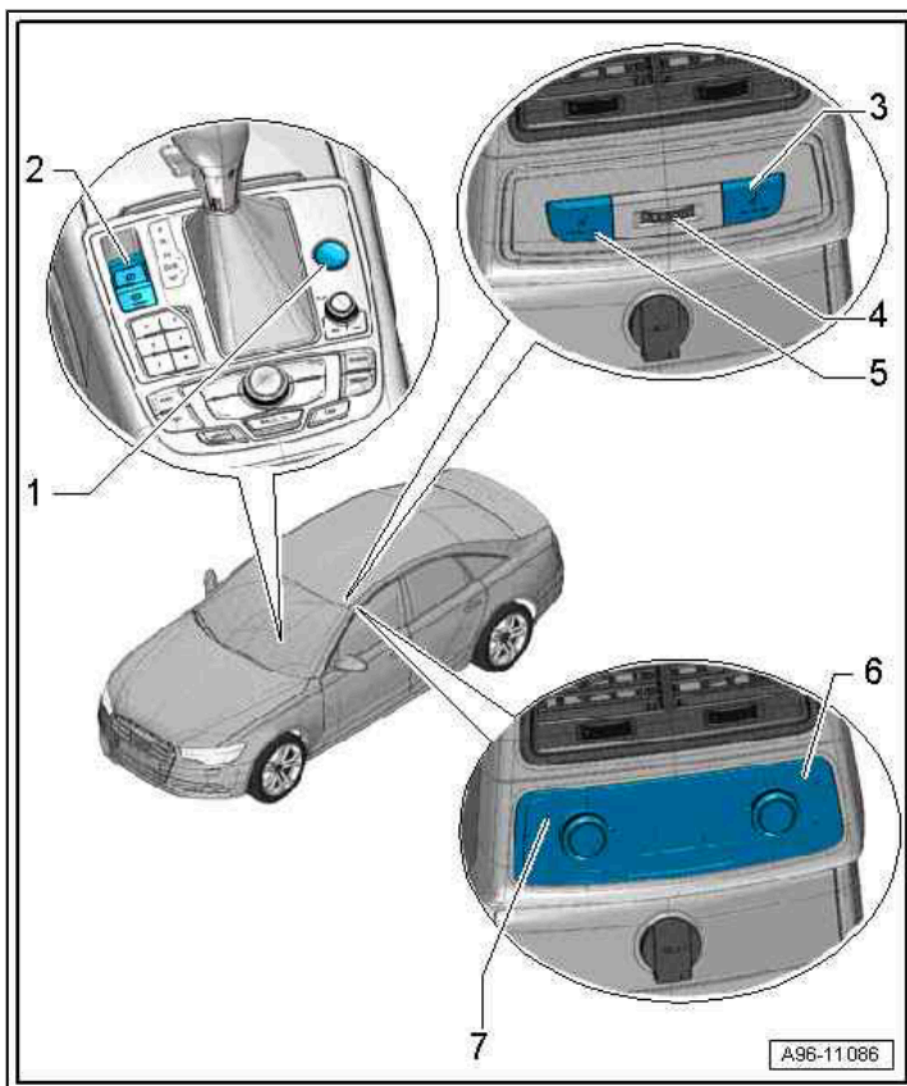
- ❑ Removing and installing  
⇒ [page 344](#)

6 - Heated rear right seat switch with regulator - E129-

- ❑ Different versions
- ❑ Integrated in rear Climatronic operating and display unit - E265- and cannot be renewed separately if defective
- ❑ Renewing rear Climatronic operating and display unit - E265- ⇒ Heating, air conditioning; Rep. gr. 87 ; Operating and display unit; Removing and installing operating and display unit

7 - Heated rear left seat switch with regulator - E128-

- ❑ Different versions
- ❑ Integrated in rear Climatronic operating and display unit - E265- and cannot be renewed separately if defective
- ❑ Renewing rear Climatronic operating and display unit - E265- ⇒ Heating, air conditioning; Rep. gr. 87 ; Operating and display unit; Removing and installing operating and display unit





## 2.4.2 Overview of fitting locations - controls in centre console, version 1 (country-specific version)

1 - Padding for centre armrest

2 - Light conductor (left-side)

❑ For background lighting

3 - Light conductor (right-side)

❑ For background lighting

4 - Lower section of armrest

5 - Light 2 for rear centre console background lighting - L198- (right-side)

6 - Rear left seat massage function button - E409-

❑ Removing and installing  
⇒ [page 345](#)

7 - Trim

❑ For centre armrest

8 - Rear right seat massage function button - E410-

❑ Removing and installing  
⇒ [page 345](#)

9 - Trim (right-side)

❑ For rear seat massage function button

10 - Clip  
❑ 3x

11 - Clip

❑ 3x

12 - Trim (left-side)

❑ For rear seat massage function button

13 - Centre armrest

14 - Contact switch for rear centre console background lighting - F501-

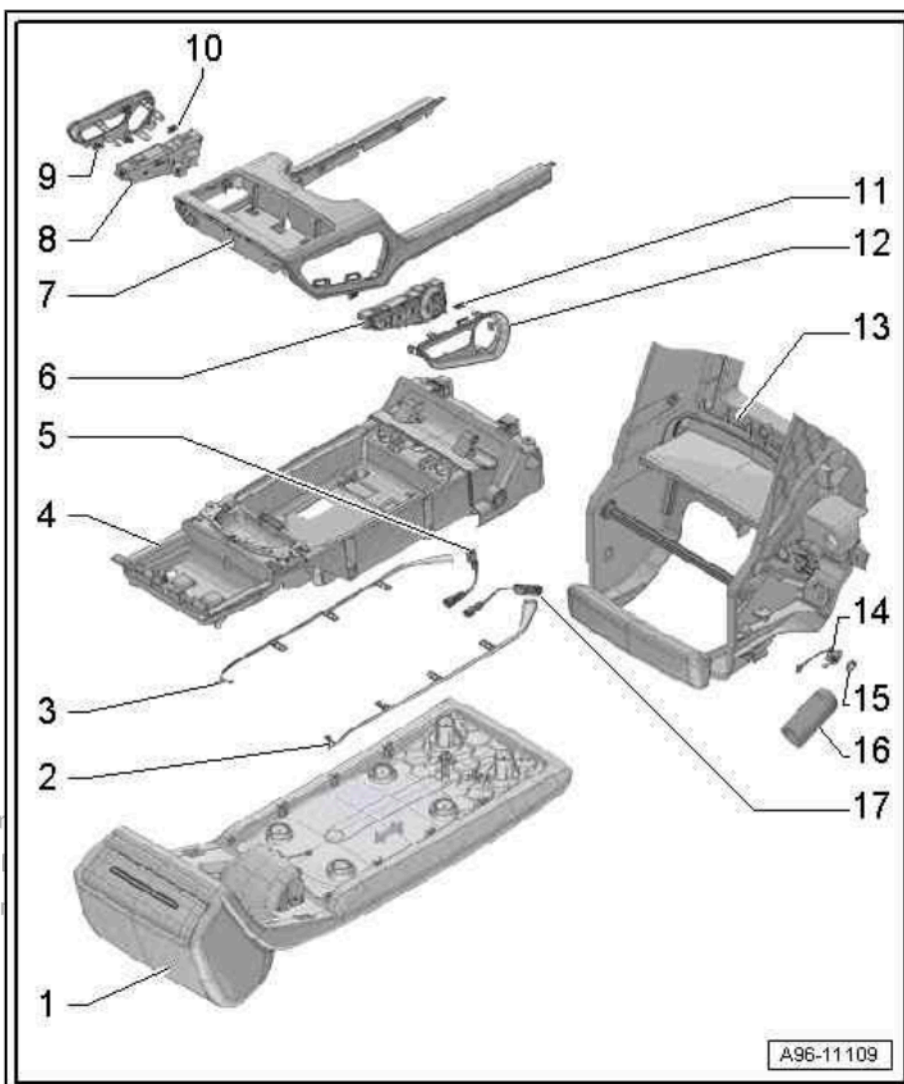
❑ Removing and installing ⇒ [page 345](#)

15 - Retaining clip

❑ 2x

16 - Grommet

17 - Light 1 for rear centre console background lighting - L197- (left-side)





## 2.4.3 Overview of fitting locations - controls in centre console, version 2 (country-specific version)

1 - Button for air ionisation system - E677-

- ☐ Country-specific version
- ☐ Only on "convenience" version
- ☐ Removing and installing  
⇒ [page 342](#)

2 - Drink holder with heater and cooling element - Z105-

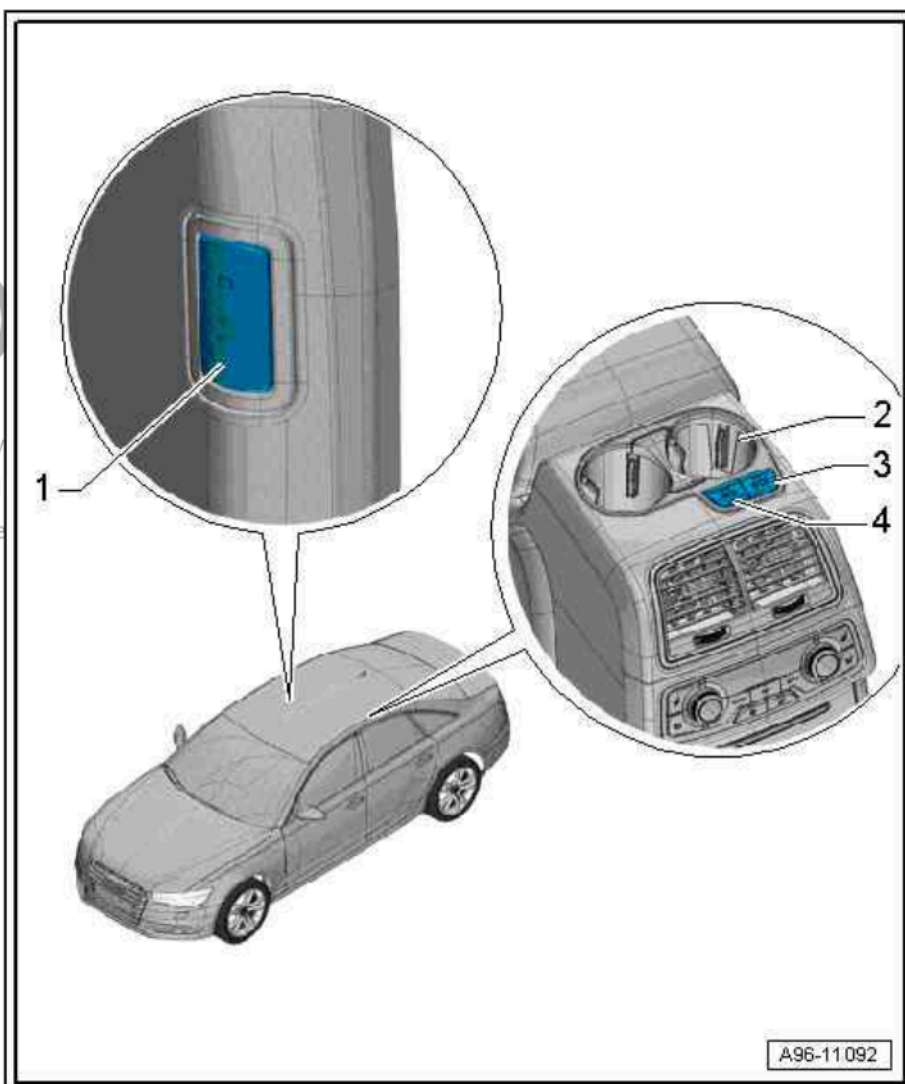
- ☐ Removing and installing  
⇒ General body repairs, interior; Rep. gr. 68 ;  
Centre console; Exploded view - centre console

3 - Button for cup holder with cooling element - E674-

- ☐ Removing and installing  
⇒ [page 345](#)

4 - Button for cup holder with heating element - E675-

- ☐ Removing and installing  
⇒ [page 345](#)







## 2.5 Overview of fitting locations - controls in luggage compartment

### 1 - Rear lid contact switch - Avant

- ❑ Removing and installing  
⇒ [page 351](#)

### 2 - Release button for rear lid lock cylinder - F248- - Avant

- ❑ Removing and installing  
⇒ [page 348](#)

### 3 - Button to close rear lid in luggage compartment - E406- - Saloon

- ❑ Version with locking button in rear lid - E806-
- ❑ Removing and installing  
⇒ [page 349](#)

### 4 - Rear lid contact switch - Saloon

- ❑ Removing and installing  
⇒ [page 351](#)

### 5 - Release button for rear lid lock cylinder - F248- - Saloon

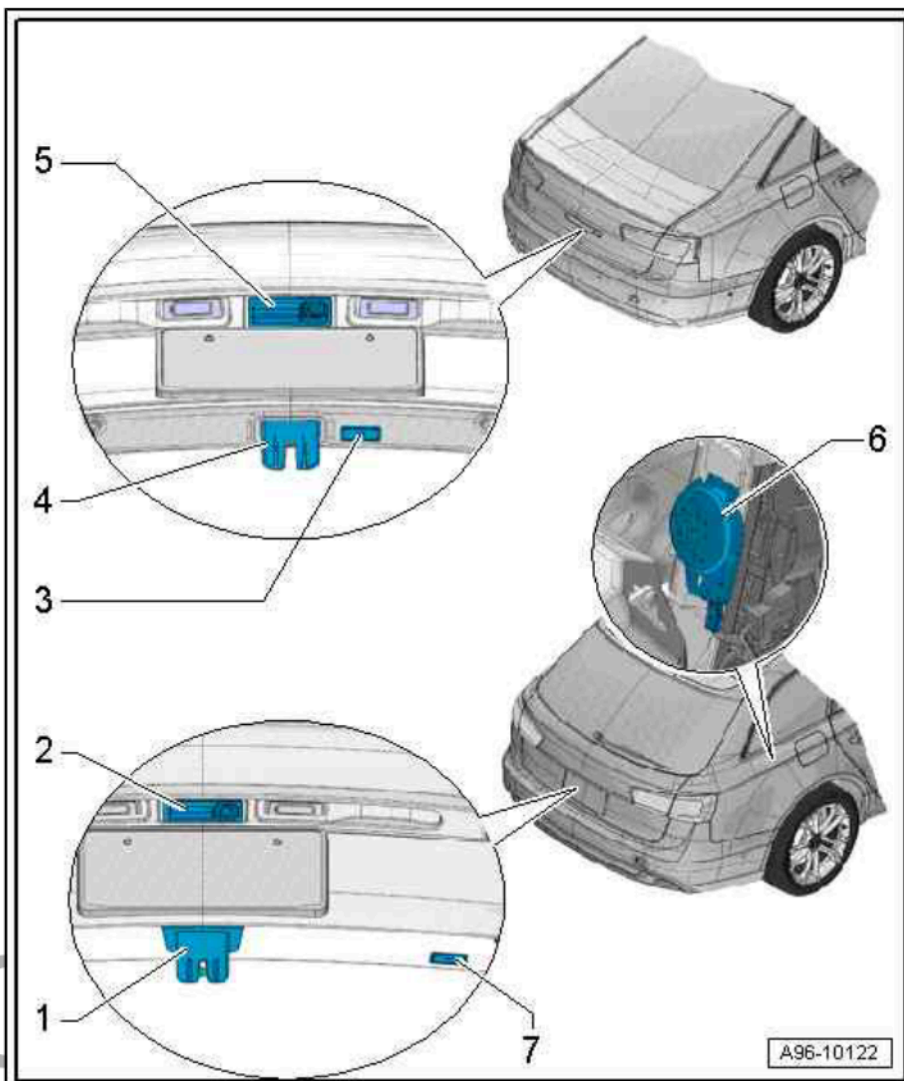
- ❑ Removing and installing  
⇒ [page 347](#)

### 6 - Rear lid warning buzzer - H32-

- ❑ Warning buzzer is activated when rear lid is closed using rear lid remote release button in front door
- ❑ Removing and installing  
⇒ [page 350](#)

### 7 - Button to close rear lid in luggage compartment - E406- - Avant

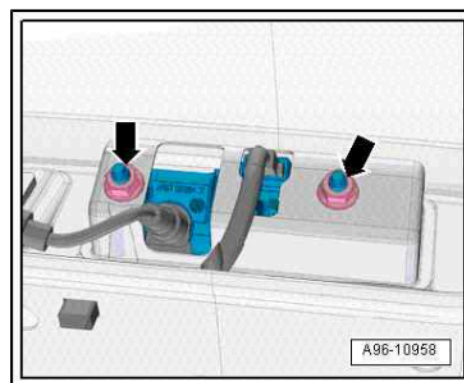
- ❑ Version with locking button in rear lid - E806-
- ❑ Removing and installing ⇒ [page 349](#)



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### Tightening torque for anti-theft protection on release button for rear lid lock cylinder - F248-

- Tighten nuts -arrows- to 6 Nm.





## 2.6 Overview of fitting locations - controls in roof trim

### 1 - Interior light/reading light (front)

- ❑ Versions without (sun) glasses compartment
- ❑ Removing and installing ⇒ [page 352](#)

### 2 - Front passenger side reading light button - E458-

- ❑ Basic version
- ❑ Combined as one component with interior light/reading light (front)

### 3 - Driver side reading light button - E457-

- ❑ Basic version
- ❑ Combined as one component with interior light/reading light (front)

### 4 - Interior light/reading light (front)

- ❑ Versions with (sun) glasses compartment
- ❑ Removing and installing ⇒ [page 353](#)

### 5 - Sunroof button - E325-

- ❑ Removing and installing ⇒ [page 351](#)

### 6 - Front left reading light button - E633-

- ❑ "Convenience" version
- ❑ Removing and installing ⇒ [page 353](#)

### 7 - Garage door operating unit - E284-

- ❑ Removing and installing ⇒ [page 355](#)

### 8 - Front right reading light button - E634-

- ❑ "Convenience" version
- ❑ Removing and installing ⇒ [page 353](#)

### 9 - Rear left reading light switch - E454-

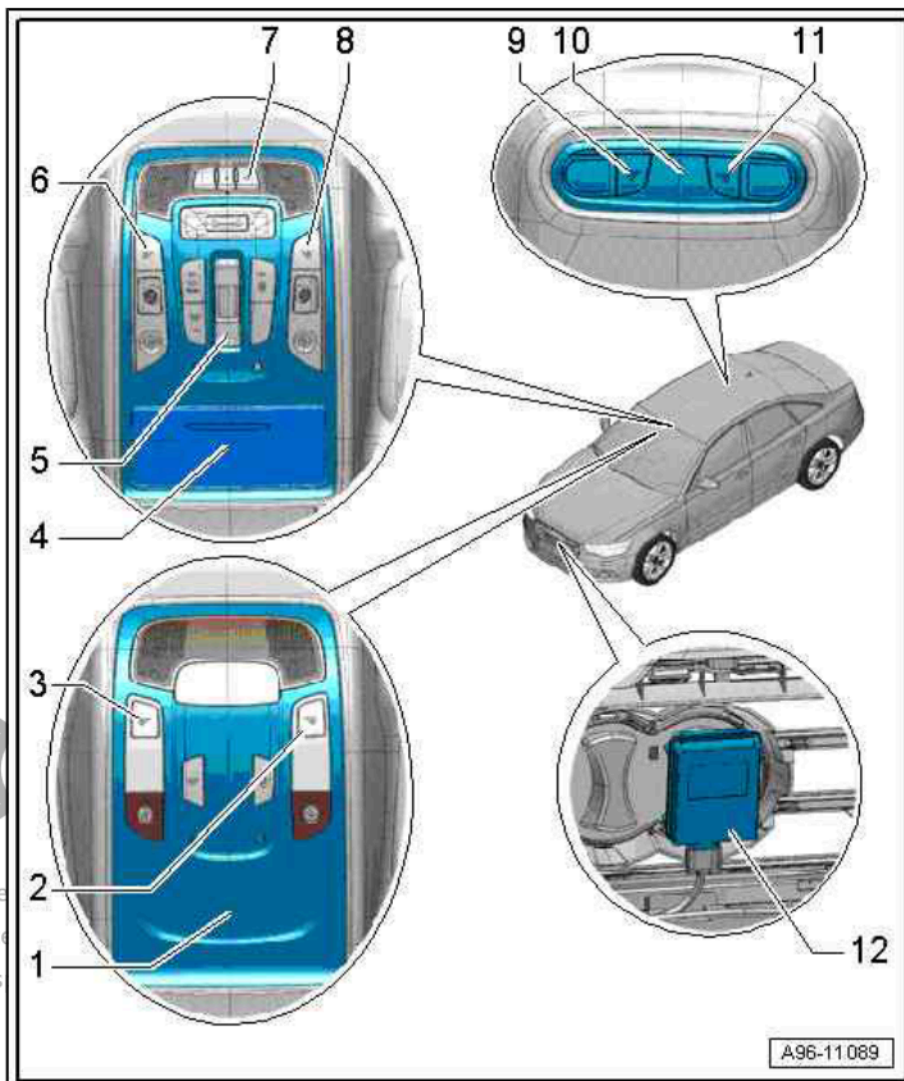
### 10 - Rear interior light

- ❑ Removing and installing ⇒ [page 353](#)

### 11 - Rear right reading light switch - E455-

### 12 - Garage door operation control unit - J530-

- ❑ Exploded view ⇒ [page 435](#)

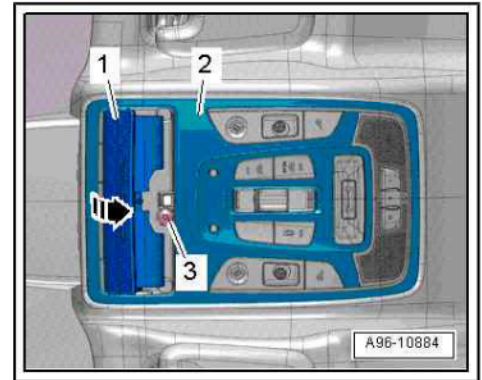






#### Interior light/reading light (front) - tightening torque

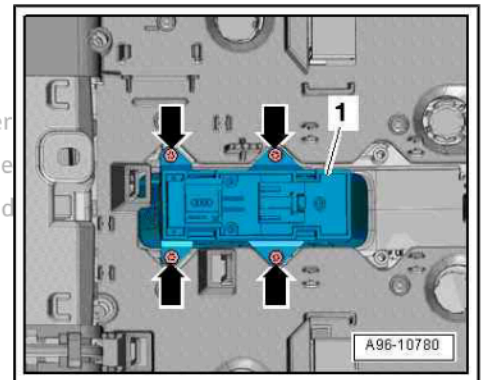
- Tighten bolt -3- to 2 Nm.



#### Tightening torque for sunroof button - E325-

- Tighten bolts -arrows- to 0.65 Nm.

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## 2.7 Removing and installing light switch - E1-

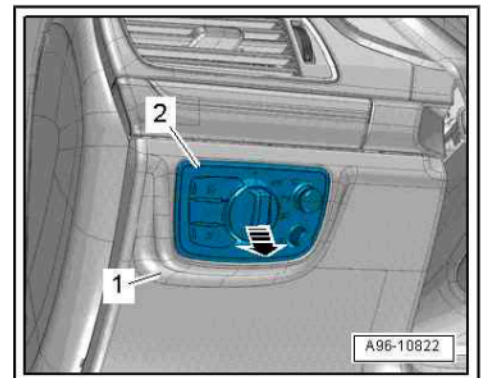
### Removing

- Turn light switch to position "0".
- Remove dash panel cover (side) ⇒ General body repairs, interior; Rep. gr. 70 ; Dash panel; Removing and installing dash panel cover (side) .
- Reach through opening between dash panel and fuse holder C and press light switch -2- out of dash panel cover (driver's side) -1- -arrow-.
- Unplug electrical connector.

### Installing

Installation is carried out in reverse order; note the following:

- Press switch into switch housing until catch engages.



## 2.8 Removing and installing switch and instrument illumination regulator - E20-

The switch and instrument illumination regulator - E20- is integrated in the housing of the light switch - E1- and cannot be renewed separately if defective.

- Renew light switch - E1- ⇒ [page 331](#) .



## 2.9 Removing and installing headlight range control regulator - E102-

### Removing

- Remove light switch -1- ⇒ [page 331](#) .
- Press headlight range control regulator -2- out of dash panel cover (driver's side) -arrow B-. This will release retaining tabs -arrows A-.



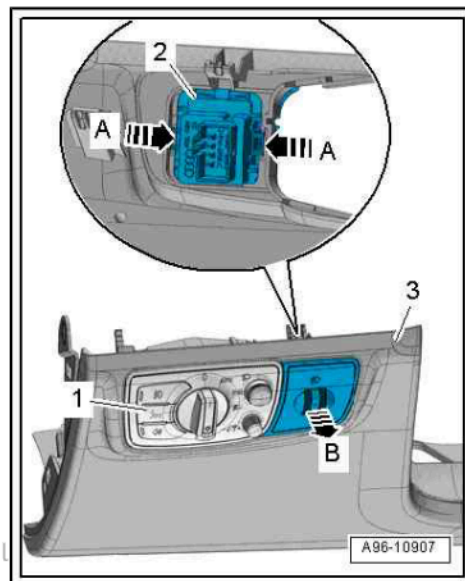
### Note

*If headlight range control regulator cannot be removed as described, dash panel cover (driver's side) must be removed ⇒ General body repairs, interior; Rep. gr. 68 ; Storage compartments/covers/trim panels; Removing and installing dash panel cover (driver's side) .*

### Installing

Installation is carried out in reverse sequence.

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## 2.10 Removing and installing rear fog light button - E314- , fog light button - E315- , button for night vision system - E680-

The rear fog light button - E314- , fog light button - E315- and button for night vision system - E680- are integrated in the housing of the light switch - E1- and cannot be renewed separately if defective.

- Renew light switch - E1- ⇒ [page 331](#) .

## 2.11 Removing and installing steering column adjustment switch - E167- / steering wheel heater button - E522-

### Removing

- Remove trim (bottom) for steering column switch module ⇒ General body repairs, interior; Rep. gr. 68 ; Storage compartments/covers/trim panels; Exploded view - steering column trim .
- Remove bolts -arrows-.
- Lift steering column adjustment switch - E167- -item 1- out of bottom trim -2-.



### Note

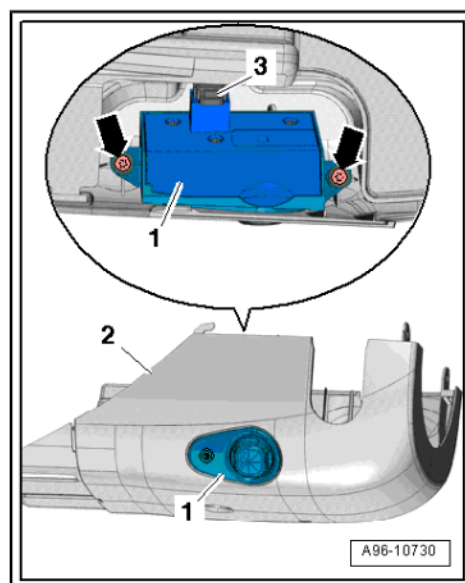
*Disregard -item 3-.*

### Installing

Installation is carried out in reverse sequence.

### Tightening torques

- ♦ ⇒ [Fig. "Tightening torque for steering column adjustment switch -E167- / steering wheel heater button -E522- "" , page 322](#)





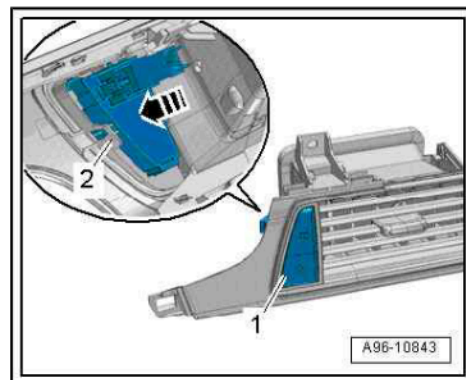
## 2.12 Removing and installing display unit button -E462- / -E506-

### Removing

- Remove dash panel vent (centre) ⇒ General body repairs, interior; Rep. gr. 70 ; Dash panel; Removing and installing dash panel vent .
- Press switch unit -1- out of mounting -2- -arrow-.
- Remove switch unit.

### Installing

Installation is carried out in reverse sequence.



## 2.13 Removing and installing switches in dash panel

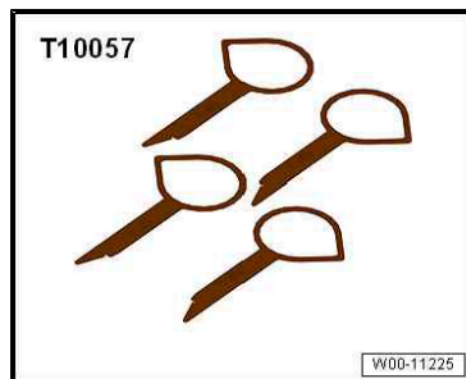


### Note

*-E256- / -E266- / -E581- / -E693- / -K145- are combined as one component.*

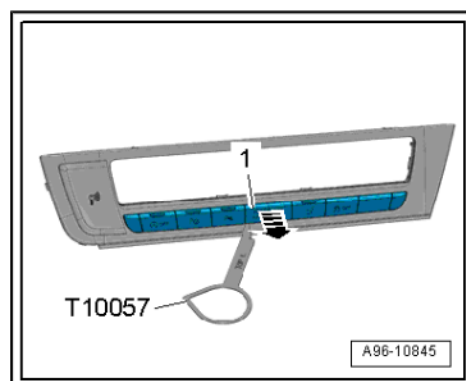
Special tools and workshop equipment required

- ◆ Radio release tool - T10057-



### Removing

- Remove trim panel for control unit 1 for information electronics - J794- ⇒ General body repairs, interior; Rep. gr. 70 ; Dash panel; Exploded view - dash panel .
- Pry off cover -1- for warning lamp for airbag deactivated on front passenger side - K145- -arrow-; to do so, position release tools -T10057- in recess as shown in illustration.



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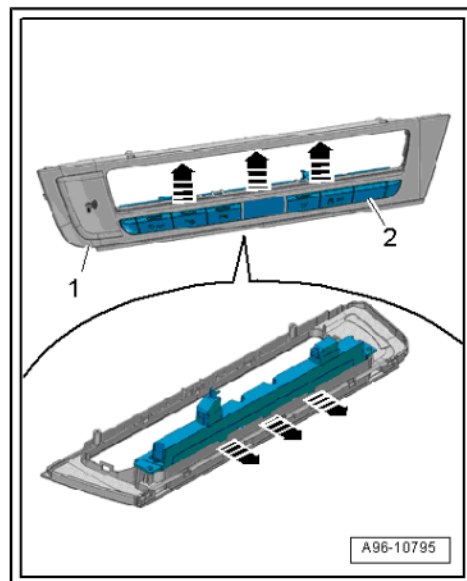


- Release retaining tabs -arrows- and remove switch unit -2- from trim panel -1- for control unit 1 for information electronics - J794- towards rear.

#### Installing

Installation is carried out in reverse order; note the following:

- Slide in switch unit until it engages audibly.
- Press on cover for warning lamp for airbag deactivated on front passenger side - K145- .



## 2.14 Removing and installing hazard warning lights button - E229-

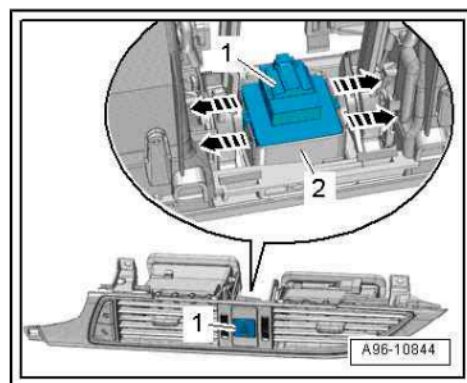
#### Removing

- Remove dash panel vent (centre) ⇒ General body repairs, interior; Rep. gr. 70 ; Dash panel; Removing and installing dash panel vent .
- Release retaining tabs -arrows-.
- Press hazard warning lights button -1- out of mounting -2- towards rear.

#### Installing

Installation is carried out in reverse order; note the following:

- Press hazard warning lights button in until it engages audibly.



## 2.15 Removing and installing buttons for seat heating -E653- / -E654-

The buttons for seat heating are integrated into the Climatronic control unit - J255- (may also be referred to as "front operating and display unit"). They cannot be renewed separately.

- Renew Climatronic control unit - J255- ⇒ Heating, air conditioning; Rep. gr. 87 ; Operating and display unit; Removing and installing operating and display unit .



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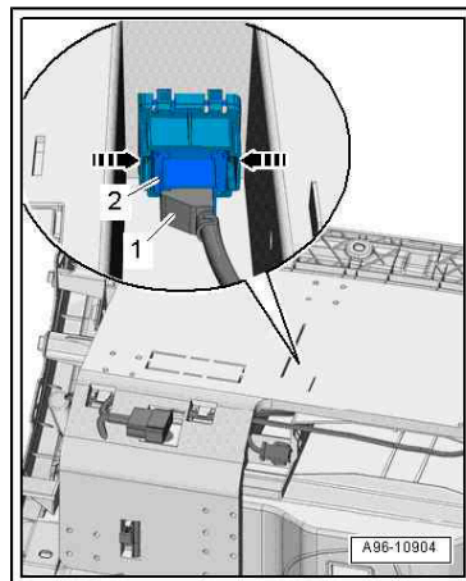
## 2.16 Removing and installing valet parking button - E536-

### Removing

- Remove glove box ➔ General body repairs, interior; Rep. gr. 68 ; Storage compartments/covers/trim panels; Removing and installing glove box .
- Release retaining clips -arrows- and press out valet parking button -2- forwards.
- Unplug electrical connector -1-.

### Installing

Installation is carried out in reverse sequence.



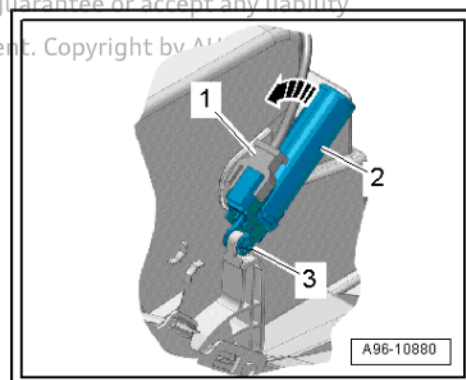
## 2.17 Removing and installing glove compartment light switch - E26-

### Removing

- Remove glove box ➔ General body repairs, interior; Rep. gr. 68 ; Storage compartments/covers/trim panels; Removing and installing glove box .
- Unplug electrical connector -1-.
- Pull out hinge pin -3-.
- Release switch -2- in anti-clockwise direction -arrow- and detach.

### Installing

Installation is carried out in reverse sequence.





## 2.18 Removing and installing mirror adjustment switch -E43- / -E168-

### Removing

- Remove operating unit for window regulator in driver's door ⇒ [page 336](#) .
- Remove door puller/armrest (front) ⇒ General body repairs, interior; Rep. gr. 70 ; Door trim (front); Exploded view - door trim (front) .
- Carefully release retaining hooks -arrows- using a small screwdriver.
- Press mirror adjustment switch -1- out of switch mounting -3-.
- Unplug electrical connector -2-.

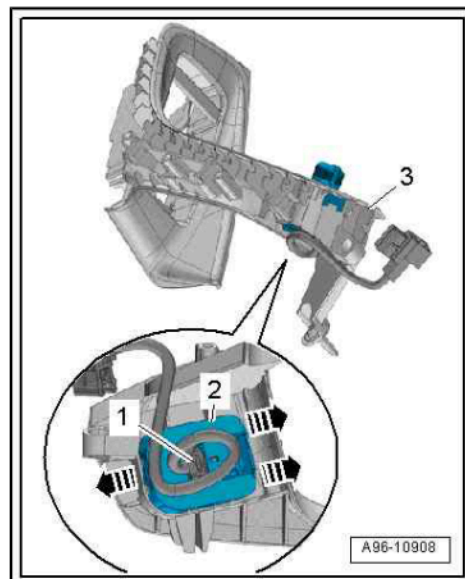
### Installing

Installation is carried out in reverse order; note the following:



#### Note

When installing, make sure symbol panel is inserted before mirror adjustment switch.



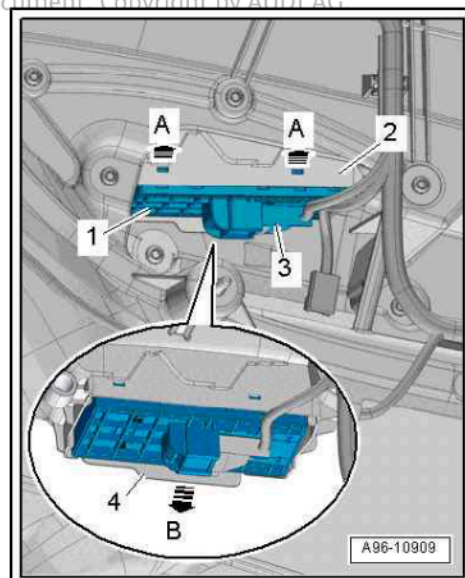
## 2.19 Removing and installing operating unit for window regulator in driver door - E512-

### Removing

- Remove door trim (front) and fold insulating mat to the side ⇒ General body repairs, interior; Rep. gr. 70 ; Door trim (front); Removing and installing door trim (front) .
- Carefully release retaining hooks -arrows A- using a small screwdriver.
- Disengage release button -4- in direction of -arrow B-.
- Press window regulator switch -1- out of switch mounting -2-.
- Unplug electrical connector -3-.

### Installing

Installation is carried out in reverse sequence.





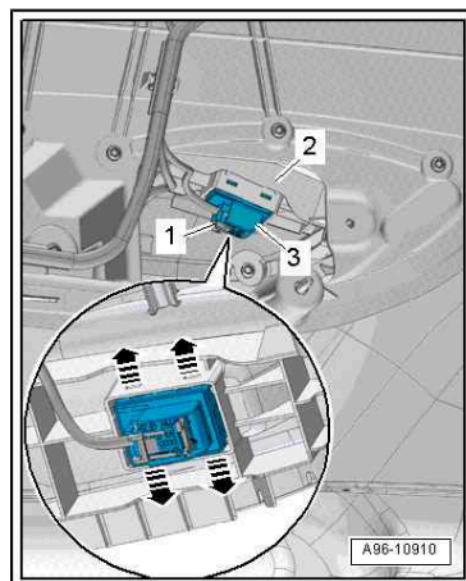
## 2.20 Removing and installing window regulator switch in front passenger door - E107-

### Removing

- Remove door trim (front) and fold insulating mat to the side ⇒ General body repairs, interior; Rep. gr. 70 ; Door trim (front); Removing and installing door trim (front) .
- Unplug electrical connector -1-.
- Carefully release retaining hooks -arrows- using a small screwdriver.
- Press window regulator switch -3- out of switch mounting -2-.

### Installing

Installation is carried out in reverse sequence.



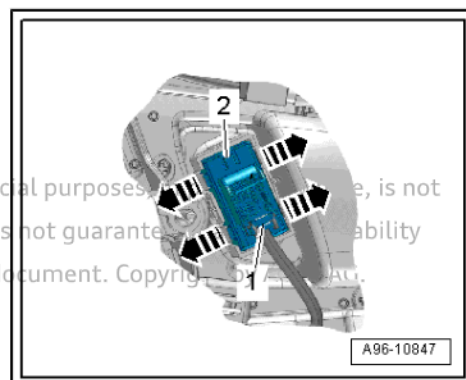
## 2.21 Removing and installing interior locking switch -E150- / -E198-

### Removing

- Remove door trim (front) ⇒ General body repairs, interior; Rep. gr. 70 ; Door trim (front); Removing and installing door trim (front) .
- Unplug electrical connector -1-.
- Release retaining clips -arrows- and press out interior locking switch -2- outwards.

### Installing

Installation is carried out in reverse sequence.





## 2.22 Removing and installing driver seat/front passenger seat memory operating unit - E97- / -E277-

### Removing

- Remove trim for interior door handle ⇒ General body repairs, interior; Rep. gr. 70 ; Door trim (front); Exploded view - door trim (front) .
- Press retaining tab -3- slightly to the rear and at the same time push operating unit -1- out of mounting in direction of -arrow-.
- Unplug electrical connector -2-.
- Detach operating unit.

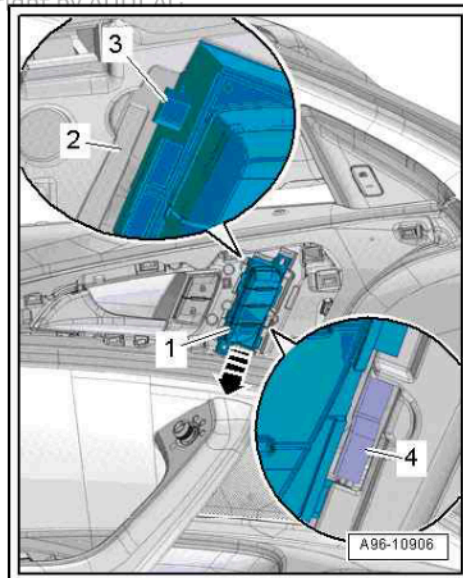
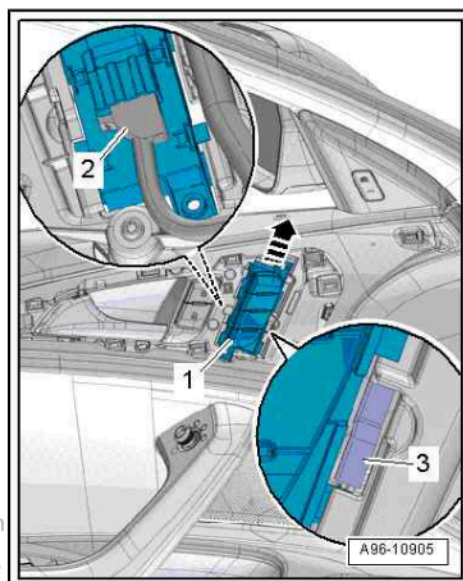


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### Installing

Installation is carried out in reverse order; note the following:

- Plug in electrical connector.
- Fit operating unit -1- on mounting -2- and push downwards -arrow- until retaining tab -4- engages audibly.
- Guide -3- must slide downwards behind mounting.



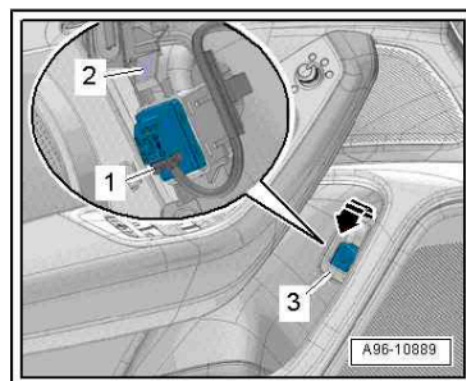




## 2.23 Removing and installing rear lid remote release button - E233- / fuel tank flap release button - E319-

### Removing

- Remove door trim (front) ⇒ General body repairs, interior; Rep. gr. 70 ; Door trim (front); Removing and installing door trim (front) .
- Unplug electrical connector -1-.
- Release retaining clip -2- and press trim panel -3- with switch out of door trim -arrow-.

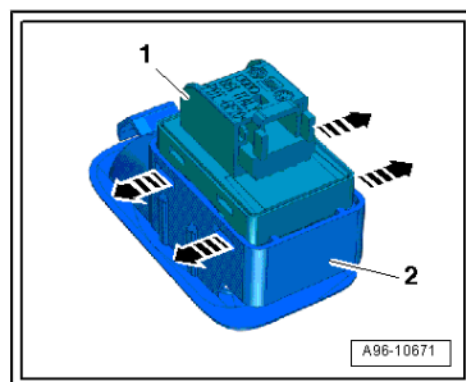


- Carefully release retaining hooks -arrows- using a small screwdriver.
- Take switch -1- out of trim panel -2- towards rear.

### Installing

Installation is carried out in reverse order; note the following:

- Press trim panel with switch into mounting until retaining hooks engage.



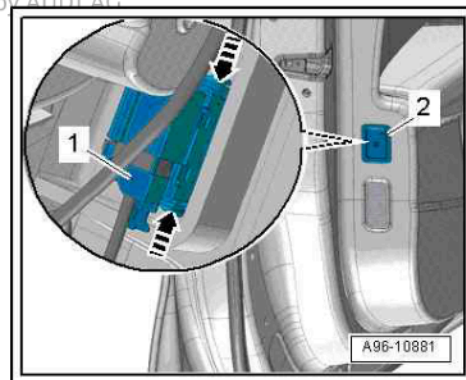
## 2.24 Removing and installing alarm system off switch - E217-

### Removing

- Remove door trim (front) ⇒ General body repairs, interior; Rep. gr. 70 ; Door trim (front); Removing and installing door trim (front) .
- Unplug electrical connector -1-.
- Release retaining springs -arrows- and press switch -2- out of door trim.

### Installing

Installation is carried out in reverse sequence.





## 2.25 Removing and installing rear window regulator button in rear door

⇒ "2.25.1 Removing and installing rear window regulator button in rear door E700 / E705 ", page 340

⇒ "2.25.2 Removing and installing rear window regulator button in rear door, country-specific version", page 340

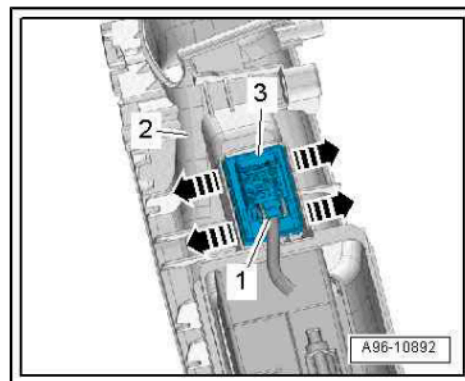
### 2.25.1 Removing and installing rear window regulator button in rear door -E700- / -E705-

#### Removing

- Remove door puller/armrest (rear) ⇒ General body repairs, interior; Rep. gr. 70 ; Door trim (rear); Exploded view - door trim (rear) .
- Carefully release retaining hooks -arrows- using a small screwdriver.
- Press window regulator button -3- out of switch mounting -2-.
- Unplug electrical connector -1-.

#### Installing

Installation is carried out in reverse sequence.



### 2.25.2 Removing and installing rear window regulator button in rear door, country-specific version



#### Note

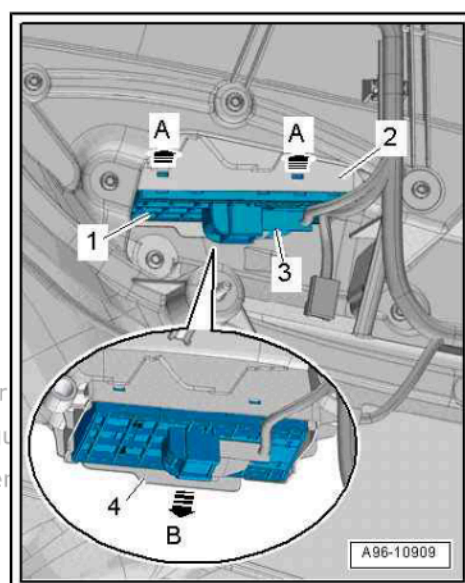
*The buttons -E699- / -E700- / -E701- / -E702- / -E703- / -E704- / -E705- / -E706- / -E707- / -E708- are combined in one operating unit.*

#### Removing

- Remove door trim (rear) and fold insulating mat to the side ⇒ General body repairs, interior; Rep. gr. 70 ; Door trim (rear); Removing and installing door trim (rear) .
- Carefully release retaining hooks -arrows A- using a small screwdriver.
- Disengage release button -4- in direction of -arrow B-.
- Press window regulator button -1- out of switch mounting -2-.
- Unplug electrical connector -3-.

#### Installing

Installation is carried out in reverse sequence.





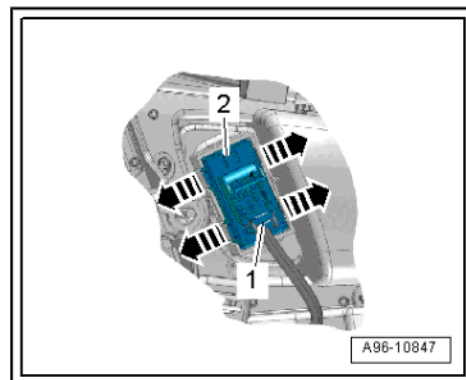
## 2.26 Removing and installing rear interior locking switch -E273- / -E274-

### Removing

- Remove door trim (rear) ⇒ General body repairs, interior; Rep. gr. 70 ; Door trim (rear); Removing and installing door trim (rear) .
- Unplug electrical connector -1-.
- Release retaining clips -arrows- and press out interior locking switch -2- outwards.

### Installing

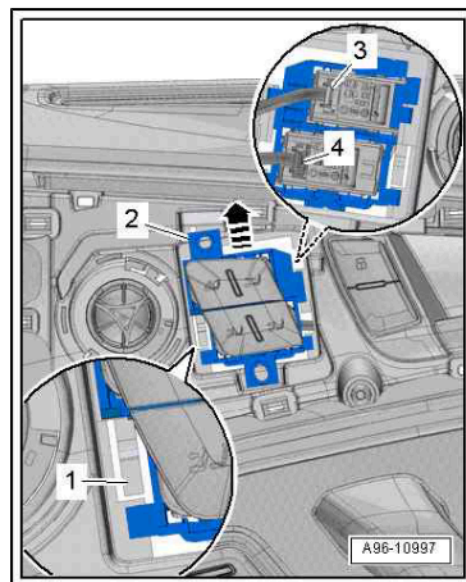
Installation is carried out in reverse sequence.



## 2.27 Removing and installing backrest adjustment button - E425- / button for longitudinal adjustment of front passenger seat - E603-

### Removing

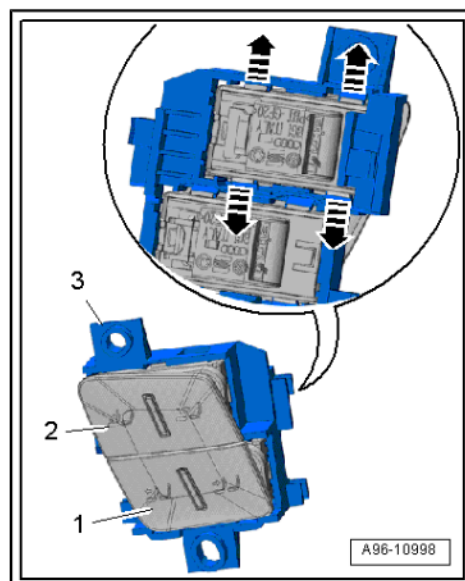
- Remove trim for interior door handle ⇒ General body repairs, interior; Rep. gr. 70 ; Door trim (rear); Exploded view - door trim (rear) .
- Press retaining tab -1- slightly to the rear and at the same time push mounting -2- out of door trim in direction of -arrow-.
- Unplug electrical connectors -3, 4-.



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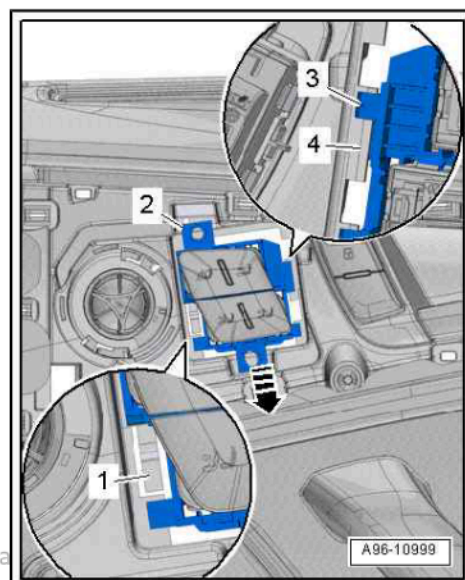
- Release retaining clips -arrows- and press buttons -1, 2- out of mounting -3-.



### Installing

Installation is carried out in reverse order; note the following:

- Plug in electrical connectors.
- Fit mounting -2- on door trim and push downwards -arrow- until retaining tab -1- engages audibly.
- Guide -3- must slide downwards behind guide rail -4-.



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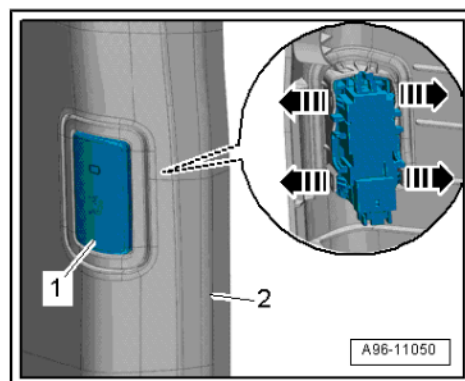
## 2.28 Removing and installing button for air ionisation system - E677-

### Removing

- Remove B-pillar trim (bottom) ⇒ General body repairs, interior; Rep. gr. 70 ; Passenger compartment trim panels; Removing and installing B-pillar trim .
- Release retaining clips -arrows- and press button -1- for air ionisation system out of B-pillar trim -2-.

### Installing

Installation is carried out in reverse sequence.







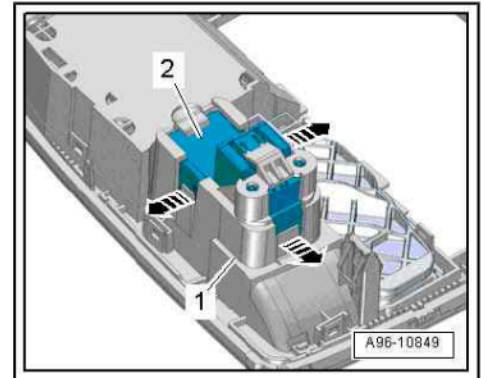
## 2.29 Removing and installing electromechanical parking brake button - E538- / auto-hold button - E540-

### Removing

- Remove multimedia system operating unit ⇒ Communication; Rep. gr. 91 ; Infotainment system; Removing and installing multimedia system operating unit - E380- .
- Release retaining clips -arrows- and press button -2- out of operating unit -1-.

### Installing

Installation is carried out in reverse sequence.



## 2.30 Removing and installing entry and start authorisation button - E408-

### Removing

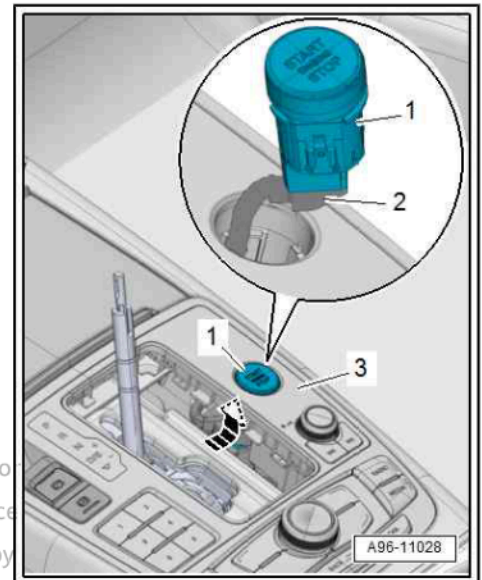
- Pull selector lever boot upwards and turn inside out ⇒ Rep. gr. 34 ; Selector mechanism; Removing and installing selector lever handle or ⇒ Rep. gr. 37 ; Selector mechanism; Removing and installing selector lever handle .
- Reach through opening and press entry and start authorisation button -1- out of multimedia system operating unit -3-.
- Unplug electrical connector -2-.



*The multimedia system operating unit must be removed if the button cannot be removed as described ⇒ Communication; Rep. gr. 91 ; Infotainment system; Removing and installing multimedia system operating unit - E380- .*

### Installing

Installation is carried out in reverse sequence.





## 2.31 Removing and installing heated rear seat switch with regulator -E128- / -E129-

⇒ "2.31.1 Removing and installing heated rear seat switch with regulator E128 / E129 - vehicles with air conditioner (basic version)", page 344

⇒ "2.31.2 Removing and installing heated rear seat switch with regulator E128 / E129 - vehicles with air conditioner (deluxe version)", page 344

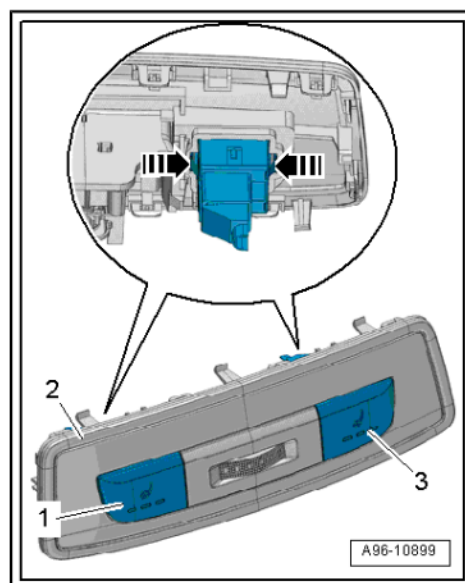
### 2.31.1 Removing and installing heated rear seat switch with regulator -E128- / -E129- - vehicles with air conditioner (basic version)

#### Removing

- Remove cover for heated rear seat switch with regulator ⇒ General body repairs, interior; Rep. gr. 68 ; Centre console; Exploded view - centre console .
- Release retaining clips -arrows-.
- Press switches -1, 3- out of cover -2-.

#### Installing

Installation is carried out in reverse sequence.



### 2.31.2 Removing and installing heated rear seat switch with regulator -E128- / -E129- - vehicles with air conditioner (deluxe version)

The heated rear seat switches with regulator are integrated in the rear Climatronic operating and display unit - E265- and cannot be renewed separately.

- Renew rear Climatronic operating and display unit - E265- ⇒ Heating, air conditioning; Rep. gr. 87 ; Operating and display unit; Removing and installing operating and display unit .



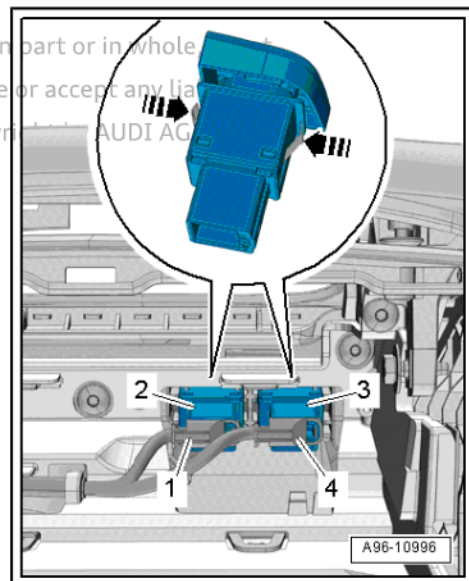
## 2.32 Removing and installing button for cup holder -E674- / -E675-

### Removing

- Remove cover (rear) for centre console ➔ General body repairs, interior; Rep. gr. 68 ; Centre console; Exploded view - centre console
- Unplug electrical connectors -1, 4-.
- Release retaining clips -arrows-.
- Press button for cup holder with cooling element -item 3- or button for cup holder with heating element -item 2- out of cup holder.

### Installing

Installation is carried out in reverse sequence.



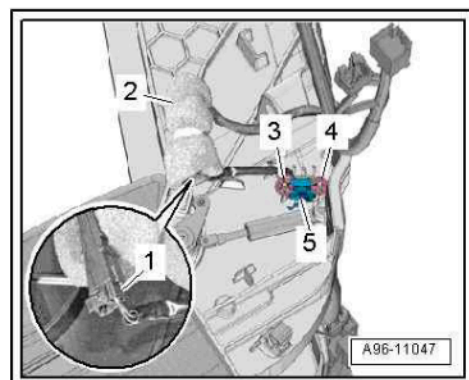
## 2.33 Removing and installing contact switch for rear centre console background lighting - F501-

### Removing

- Remove rear centre armrest ➔ General body repairs, interior; Rep. gr. 72 ; Rear seats; Exploded view - centre armrest .
- Remove trim for centre armrest ➔ General body repairs, interior; Rep. gr. 72 ; Rear seats; Exploded view - centre armrest .
- Pull protective sleeve -2- to side and unplug electrical connector -1-.
- Pull off securing clips -3, 4-.
- Take contact switch -5- out of mounting.

### Installing

Installation is carried out in reverse sequence.



## 2.34 Removing and installing rear seat massage function button -E409- / -E410-

Special tools and workshop equipment required

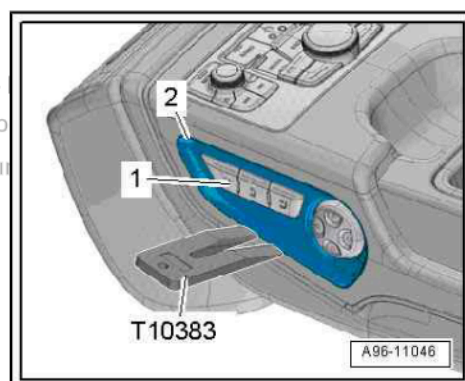
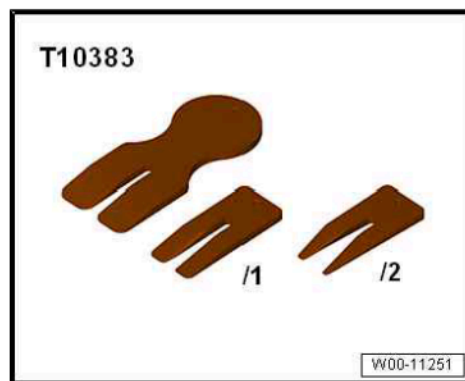


◆ Wedges - T10383-



Removing

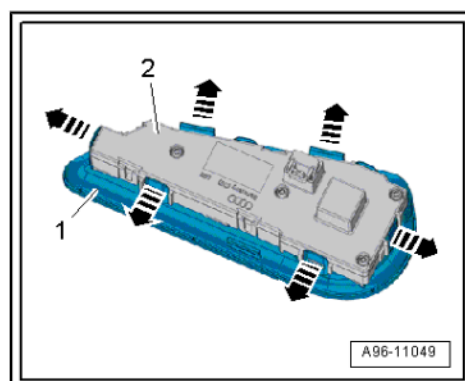
- Open centre armrest.
- Unclip rear seat massage function button from rear centre armrest using wedge -T10383-.
- Unplug electrical connector.



- If button -2- is renewed: Release retaining tabs -arrows- and detach trim -1-.

Installing

Installation is carried out in reverse sequence.







## 2.35 Removing and installing release button for rear lid lock cylinder - F248-

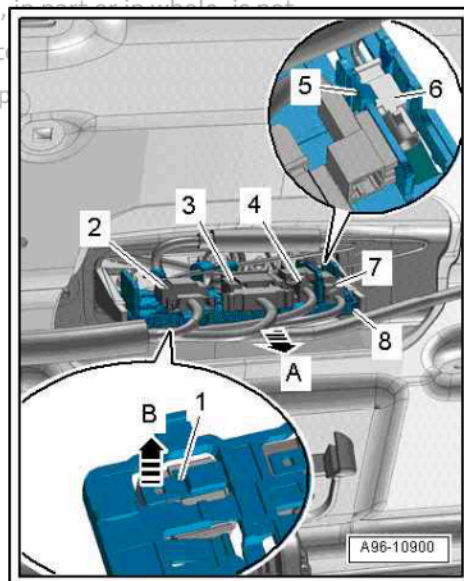
⇒ "2.35.1 Removing and installing release button for rear lid lock cylinder F248 - Saloon", page 347

⇒ "2.35.2 Removing and installing release button for rear lid lock cylinder F248 - Avant", page 348

### 2.35.1 Removing and installing release button for rear lid lock cylinder - F248- - Saloon

#### Removing

- Remove rear lid trim (bottom) ⇒ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim panels; Removing and installing rear lid trim (bottom) .
- Unplug electrical connectors -2, 3, 4- and aerial wire -7-.
- Pull out retaining strip -8- -arrow A-.
- Release retaining tab -1- -arrow B-, push electrical connector out of mounting and move clear electrical wiring.
- Press retaining tab -5- to one side, take out aerial connector -6- and move clear electrical wiring.



- Remove nuts -1, 4-.
- Unplug electrical connector -3-.
- Release retaining tabs -arrows A- and press out button -5- outwards -arrow B-.
- Guide out electrical wiring -2- through opening.

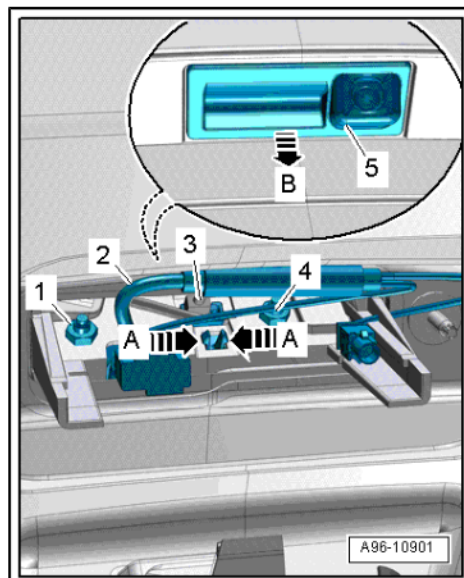
#### Installing

Installation is carried out in reverse order; note the following:

- On vehicles with reversing camera, reversing camera - R189- must be re-calibrated ⇒ Communication; Rep. gr. 91 ; Reversing camera system; Calibrating reversing camera system .

#### Tightening torques

- ◆ ⇒ Fig. "Tightening torque for anti-theft protection on release button for rear lid lock cylinder -F248- ", page 329

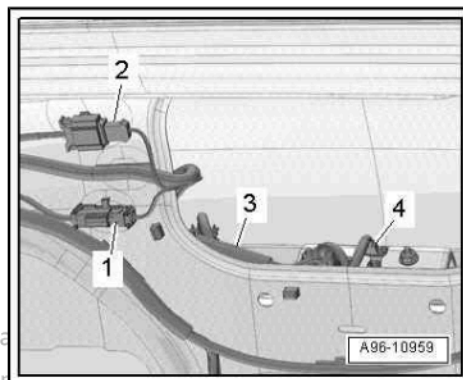




## 2.35.2 Removing and installing release button for rear lid lock cylinder - F248- - Avant

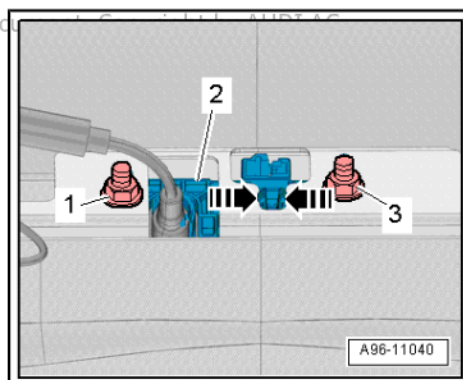
### Removing

- Remove rear lid trim ⇒ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim panels; Removing and installing rear lid trim (bottom) .
- Unplug electrical connectors -2, 4- and aerial wire -1-.
- Move electrical wiring harness -3- clear.



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- Remove nuts -1, 3-.
- Release retaining tabs -arrows-.



- Release side retaining tabs -2- -arrows A- and press out button -1- outwards -arrow B-.
- Guide out electrical wire through opening.

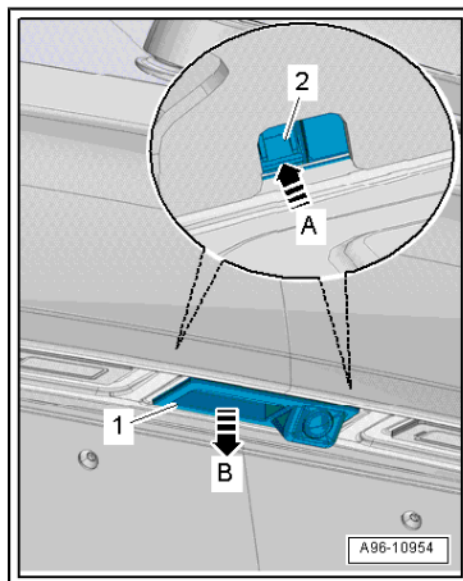
### Installing

Installation is carried out in reverse order; note the following:

- On vehicles with reversing camera, reversing camera - R189- must be re-calibrated ⇒ Communication; Rep. gr. 91 ; Reversing camera system; Calibrating reversing camera system .

### Tightening torques

- ♦ ⇒ Fig. ""Tightening torque for anti-theft protection on release button for rear lid lock cylinder -F248- "" , page 329





## 2.36 Removing and installing button to close rear lid in luggage compartment - E406-

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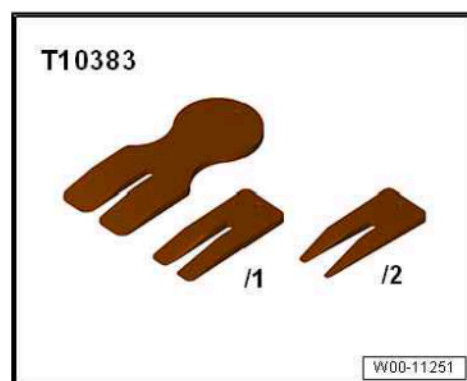
⇒ "2.36.1 Removing and installing button to close rear lid in luggage compartment E406 - Saloon", page 349

⇒ "2.36.2 Removing and installing button to close rear lid in luggage compartment E406 - Avant", page 349

### 2.36.1 Removing and installing button to close rear lid in luggage compartment - E406- - Saloon

Special tools and workshop equipment required

◆ Wedges - T10383-



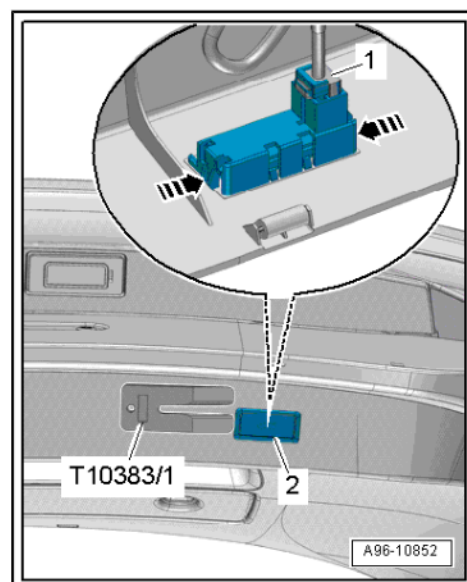
Depending on the equipment version, the locking button in rear lid - E406- is integrated in the button to close rear lid in luggage compartment - E806-. In the event of a fault, the complete switch panel must be renewed.

#### Removing

- Release retaining tabs -arrows- at button -2- using wedge - T10383/1- .
- Take button out of rear lid trim.
- Unplug electrical connector -1-.

#### Installing

Installation is carried out in reverse sequence.

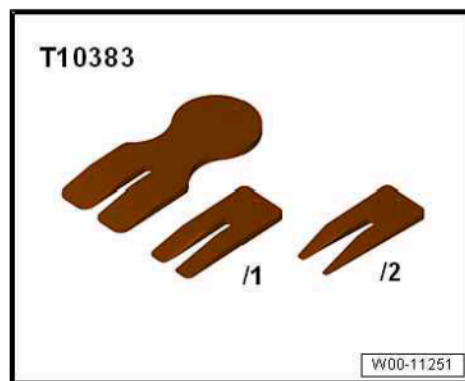


### 2.36.2 Removing and installing button to close rear lid in luggage compartment - E406- - Avant

Special tools and workshop equipment required



◆ Wedges - T10383-



Depending on the equipment version, the locking button in rear lid - E406- is integrated in the button to close rear lid in luggage compartment - E806- . In the event of a fault, the complete switch panel must be renewed.

Removing

- Release retaining tabs -arrows- at button -2- using wedge T10383/1- .
- Take button out of rear lid trim.
- Unplug electrical connector -1-.

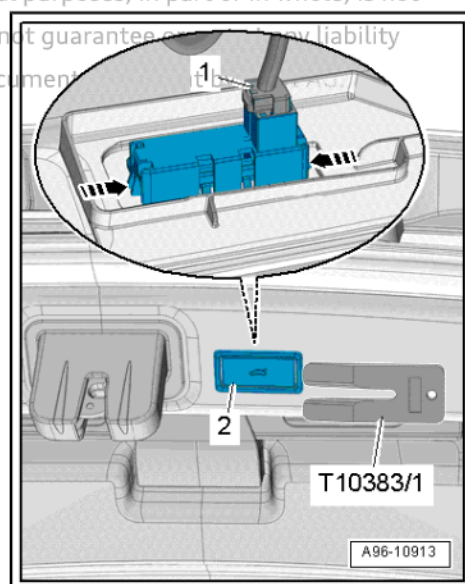


Note

*If the button cannot be removed as described, the rear lid trim (bottom) must be removed ⇒ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim panels; Removing and installing rear lid trim (bottom) .*

Installing

Installation is carried out in reverse sequence.



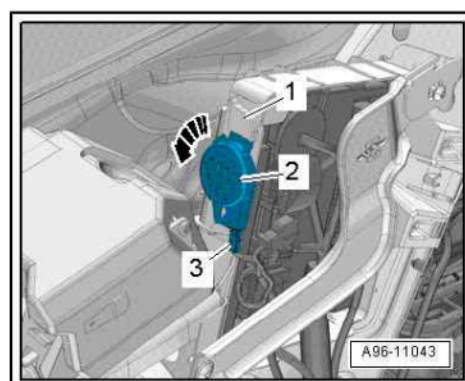
## 2.37 Removing and installing rear lid warning buzzer - H32-

Removing

- Remove luggage compartment side trim (right-side) ⇒ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim panels; Removing and installing luggage compartment side trim .
- Swivel warning buzzer -2- out of mounting -1- -arrow-.
- Unplug electrical connector -3-.

Installing

Installation is carried out in reverse sequence.



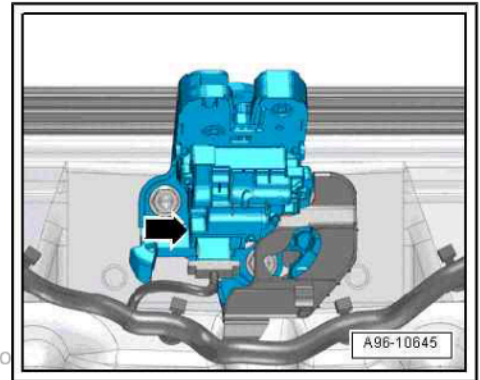




## 2.38 Removing and installing rear lid contact switch

The rear lid contact switch -arrow- is located in the rear lid lock and cannot be renewed separately in the event of a fault.

- Renew rear lid lock ⇒ General body repairs, exterior; Rep. gr. 55 ; Rear lid; Removing and installing rear lid lock .



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## 2.39 Removing and installing contact switch for vanity mirror -F147- / -F148-



### Note

*The contact switch for the vanity mirror is located in the sun visor bracket and cannot be renewed separately if defective.*

- Removing and installing sun visor ⇒ General body repairs, interior; Rep. gr. 68 ; Equipment; Removing and installing sun visor .

## 2.40 Removing and installing sunroof button - E325-

### Removing

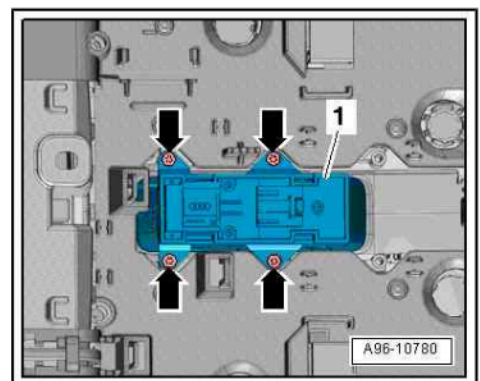
- Remove interior light/reading light (front) ⇒ [page 352](#) .
- If fitted, remove anti-theft alarm sensor - G578- ⇒ [page 363](#) .
- Remove bolts -arrows-.
- Take button -1- out of interior light/reading light (front).

### Installing

Installation is carried out in reverse order; note the following:

### Tightening torques

- ◆ ⇒ Fig. [""Tightening torque for sunroof button -E325- ""](#), [page 331](#)





## 2.41 Removing and installing interior light/ reading light (front)

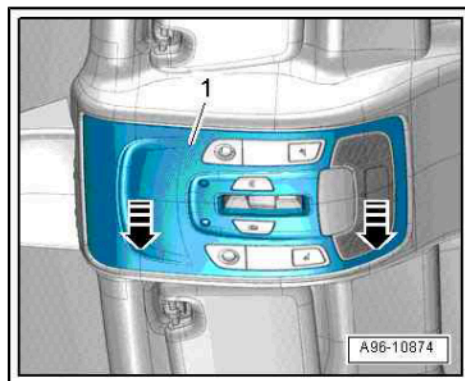
⇒ [“2.41.1 Removing and installing interior light/reading light \(front\)  
- without \(sun\)glasses compartment”, page 352](#)

⇒ [“2.41.2 Removing and installing interior light/reading light \(front\)  
- with \(sun\)glasses compartment”, page 353](#)

### 2.41.1 Removing and installing interior light/ reading light (front) - without (sun) glasses compartment

#### Removing

- Detach cover -1- for interior light downwards -arrows-.



- Remove bolt -1-.
- Swivel down interior light/reading light (front) -2- -arrow- and disengage.
- Unplug electrical connectors.

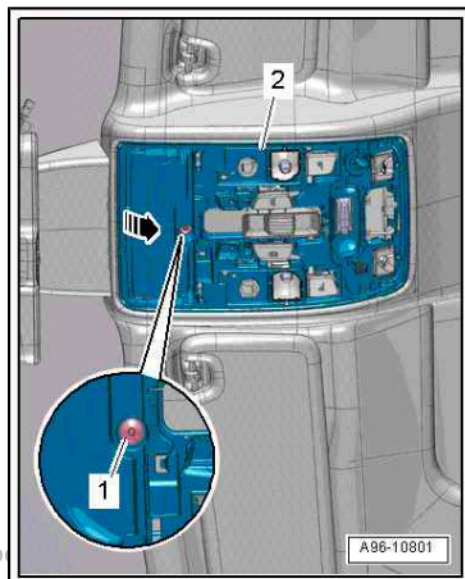
#### Installing

Installation is carried out in reverse order; note the following:

- Fit interior light and secure.
- Press on cover for interior light until it engages.

#### Tightening torques

- ◆ ⇒ [Fig. “Interior light/reading light \(front\) - tightening torque”, page 331](#)



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## 2.41.2 Removing and installing interior light/reading light (front) - with (sun)glasses compartment

### Removing

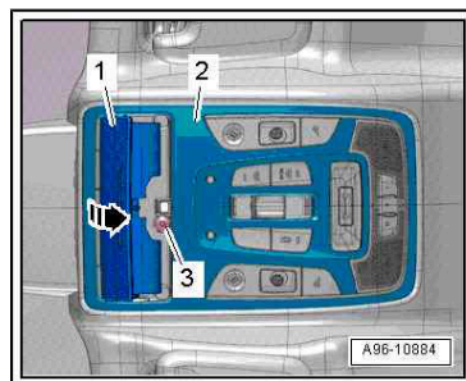
- Open (sun)glasses compartment -1-.
- Remove bolt -3-.
- Swivel down interior light/reading light (front) -2- -arrow- and disengage.
- Unplug electrical connectors.

### Installing

Installation is carried out in reverse sequence.

### Tightening torques

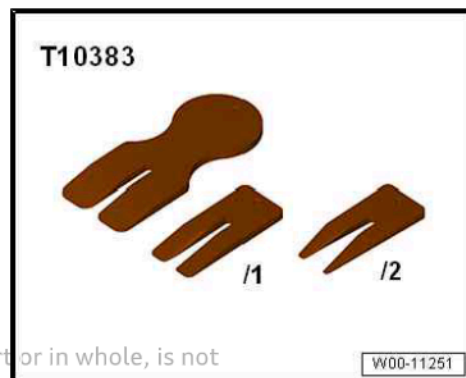
- ◆ ➔ Fig. ""Interior light/reading light (front) - tightening torque"" , page 331



## 2.42 Removing and installing interior light/reading light (rear)

Special tools and workshop equipment required

- ◆ Wedges - T10383-



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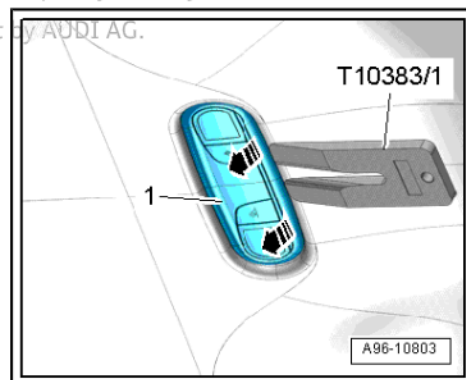
### Removing

- Carefully pry interior light/reading light -1- out of opening in headliner -arrows- using wedge -T10383/1- .
- Unplug electrical connector.

### Installing

Installation is carried out in reverse order; note the following:

- Insert interior light/reading light in opening in headliner and clip into place.

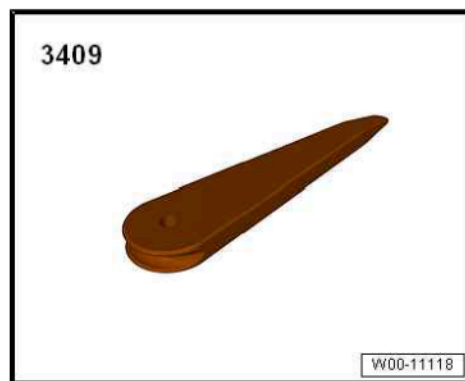


## 2.43 Removing and installing front reading light button -E633- / -E634-

Special tools and workshop equipment required

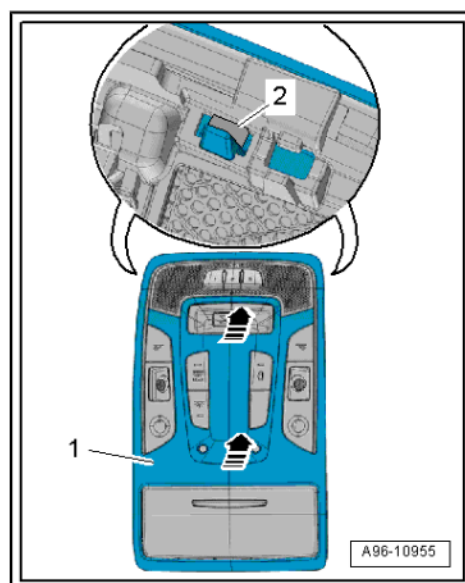


◆ Removal wedge - 3409-



Removing

- Remove interior light/reading light (front) with (sun)glasses compartment ⇒ [page 353](#) .
- Detach cover -1- for interior light -arrows-.
- If fitted, remove rubber piece -2- and release retaining tabs.

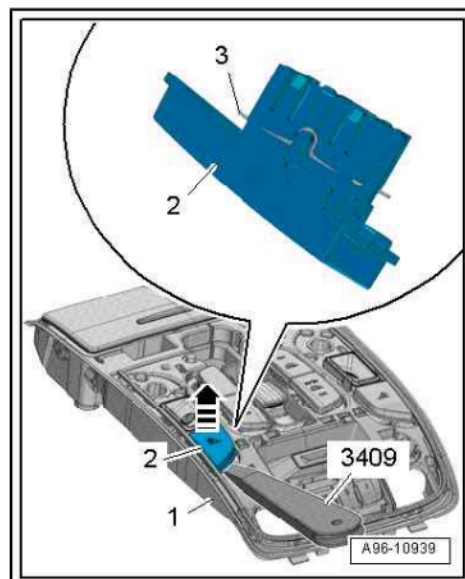


- Carefully press off button -2- from interior light/reading light -1- using removal wedge - 3409- -arrow-.

Installing

Installation is carried out in reverse order; note the following:

- Press new button onto interior light/reading light.
- Make sure that spring -3- is seated correctly on button in mountings (left and right) and that it does not get lost.
- Press on cover for interior light until it engages.







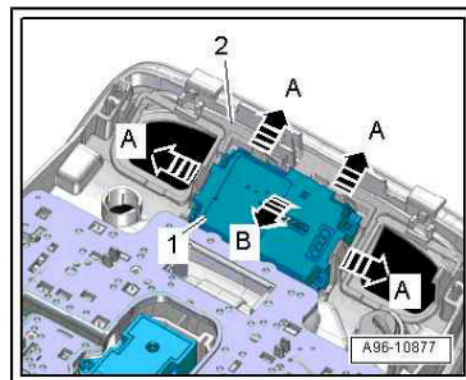
## 2.44 Removing and installing garage door operating unit - E284-

### Removing

- Remove interior light/reading light (front) ➔ [page 352](#) .
- If fitted, remove anti-theft alarm sensor - G578- ➔ [page 363](#) .
- Carefully press retaining clips aside -arrows A-.
- Take operating unit -1- out of interior light/reading light (front) -2- -arrow B-.

### Installing

Installation is carried out in reverse sequence.



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### 3 Further lights and controls in vehicle interior

⇒ ["3.1 Overview of fitting locations - further lights and controls in vehicle interior", page 356](#)

⇒ ["3.2 Removing and installing humidity sender G355 ", page 357](#)

#### 3.1 Overview of fitting locations - further lights and controls in vehicle interior

##### 1 - Cover (front)

- ☐ For housing for main beam assist control unit - J844- with light sensor - G399-

##### 2 - Cover (top)

- ☐ For main beam assist control unit - J844-

##### 3 - Interior mirror

- ☐ Versions equipped with main beam assist control unit - J844- with light sensor - G399-
- ☐ Main beam assist control unit - J844- with light sensor - G399- integrated in interior mirror. Cannot be renewed separately if defective
- ☐ Renewing interior mirror ⇒ General body repairs, interior; Rep. gr. 68 ; Interior mirror; Removing and installing interior mirror

##### 4 - Retaining plate

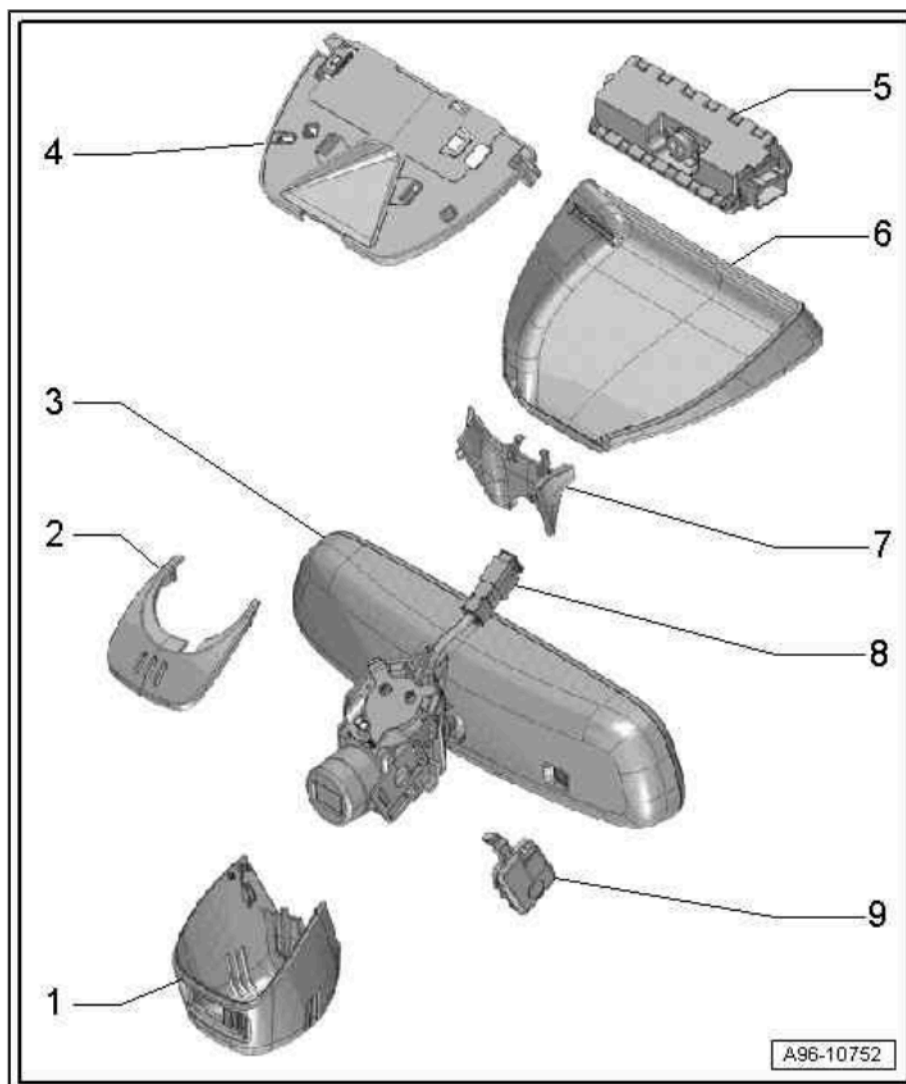
- ☐ Cannot be removed from windscreen

##### 5 - Camera control unit - J852-

- ☐ Exploded view  
⇒ [page 375](#)

##### 6 - Cover (bottom)

- ☐ For camera control unit - J852-



##### 7 - Cover (rear)

##### 8 - Central connector

##### 9 - Humidity sender - G355-

- ☐ Different versions ⇒ Electronic parts catalogue
- ☐ Humidity sender - G355- is integrated in rain and light sensor - G397- on vehicles from 03.2011 onwards

Humidity senders with part number 8K0 ...

- ☐ Removing and installing:

◆ ⇒ ["3.2.1 Removing and installing humidity sender G355 - vehicles without main beam assist", page 357](#)

◆ ⇒ ["3.2.2 Removing and installing humidity sender G355 - vehicles with main beam assist", page 358](#)

Humidity senders with part number 8U0 ...



❑ Removing and installing ➔ [page 103](#)

## 3.2 Removing and installing humidity sender - G355-

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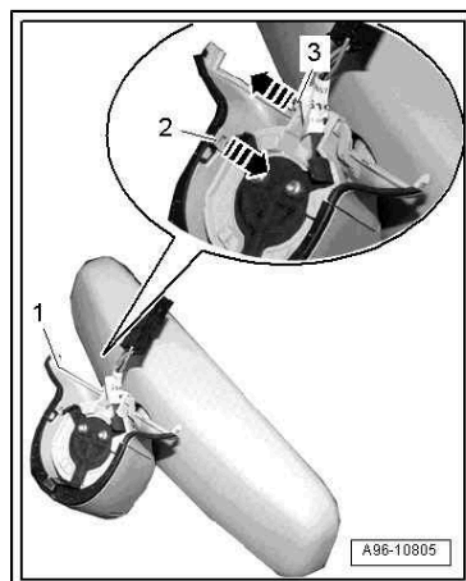
➔ ["3.2.1 Removing and installing humidity sender G355 - vehicles without main beam assist", page 357](#)

➔ ["3.2.2 Removing and installing humidity sender G355 - vehicles with main beam assist", page 358](#)

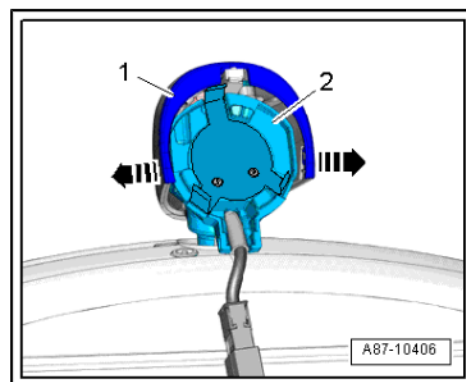
### 3.2.1 Removing and installing humidity sender - G355- - vehicles without main beam assist

#### Removing

- Remove interior mirror ➔ General body repairs, interior; Rep. gr. 68 ; Interior mirror; Removing and installing interior mirror .
- Release retaining tab -2- and retainer -3- with a screwdriver -arrows-.
- Disengage cover (rear) -1- and detach.



- Press cover (front) -1- apart slightly at both sides -arrows- and detach from interior mirror base -2-.





- Unplug electrical connector -2-.
- Use a small screwdriver -3- to carefully pry humidity sender - G355- -item 4- out of cover -1- -arrow-, lifting off at the same time.

#### Installing

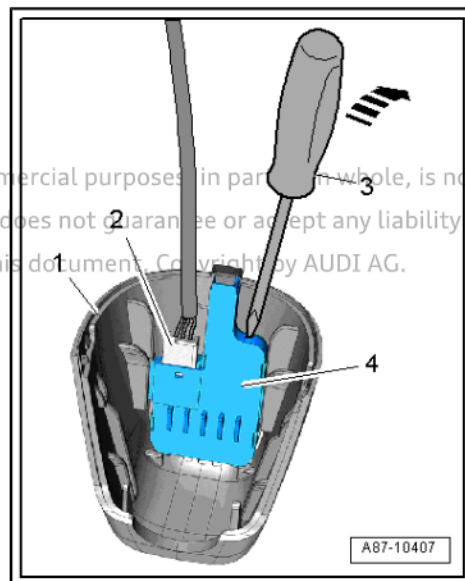
Installation is carried out in reverse order; note the following:

- Carefully insert humidity sender - G355- in side guides.



#### Note

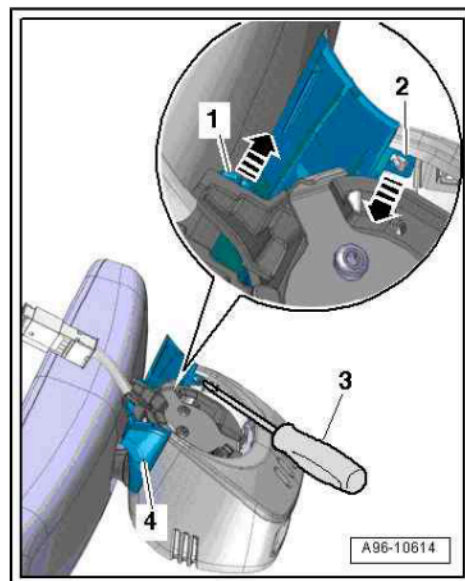
*The cover cannot be installed if the humidity sender - G355- is not fitted correctly.*



### 3.2.2 Removing and installing humidity sender - G355- - vehicles with main beam assist

#### Removing

- Remove interior mirror ⇒ General body repairs, interior; Rep. gr. 68 ; Interior mirror; Removing and installing interior mirror .
- Release retaining tabs -1- and -2- with a screwdriver -3-.
- Disengage cover (rear) -4- -arrows-.

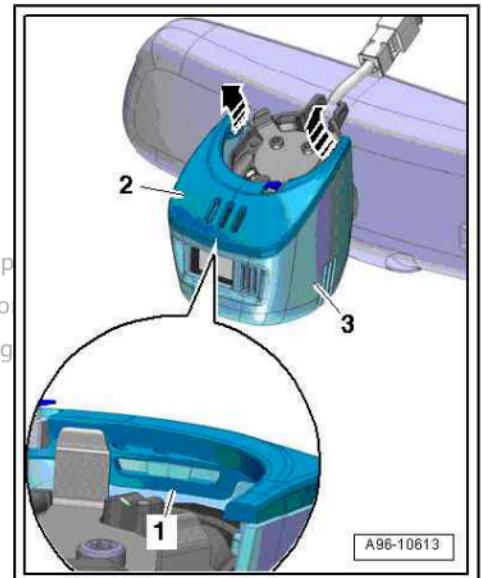




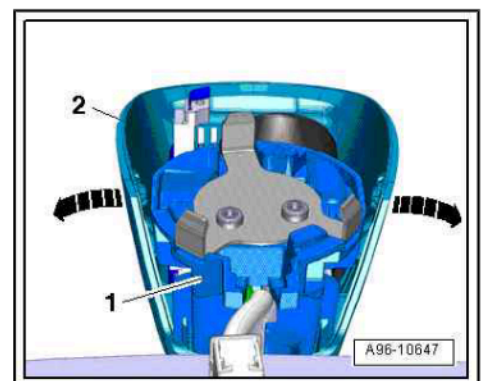


- Release retaining tabs -arrows- and carefully fold cover (top) -2- slightly upwards.
- Disengage retaining tab -1- at cover (front) -3-.
- Detach cover (top).

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- Disengage retaining hooks in direction of -arrows- and pull cover (front) -2- out of guide webs at interior mirror base -1- downwards.



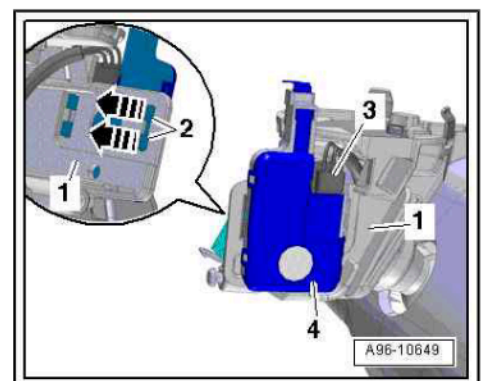
- Release retaining clips -2- -arrows- and detach humidity sender - G355- -item 4- from interior mirror base -1-.
- Unplug electrical connector -3-.

#### Installing

Installation is carried out in reverse order; note the following:

#### Tightening torques

- ◆ ⇒ ["3.1 Overview of fitting locations - further lights and controls in vehicle interior", page 356](#)





## 4 Anti-theft alarm system

⇒ "4.1 Overview - interior monitoring", page 360

⇒ "4.2 Removing and installing alarm horn H12 ", page 362

⇒ "4.3 Removing and installing anti-theft alarm sensor G578 ",  
page 363

### 4.1 Overview - interior monitoring

⇒ "4.1.1 Overview - interior monitoring, Saloon", page 360

⇒ "4.1.2 Overview - interior monitoring, Avant", page 361

#### 4.1.1 Overview - interior monitoring, Saloon

##### 1 - Alarm horn - H12-

- ❑ Removing and installing  
⇒ page 362

##### 2 - Nut

- ❑ 3 Nm

##### 3 - Bracket

- ❑ For alarm horn - H12-

##### 4 - Nut

- ❑ 3 Nm

##### 5 - Individual sensor for interior monitor (left-side)

- ❑ Can only be renewed together with anti-theft alarm sensor - G578-

##### 6 - Anti-theft alarm sensor - G578-

- ❑ Removing and installing  
⇒ page 363

##### 7 - Individual sensor

- ❑ For anti-theft alarm sensor - G578-
- ❑ Removing and installing  
⇒ "4.3 Removing and installing anti-theft alarm sensor G578 ",  
page 363

##### 8 - Individual sensor for interior monitor (right-side)

- ❑ Can only be renewed together with anti-theft alarm sensor - G578-

##### 9 - Mounting

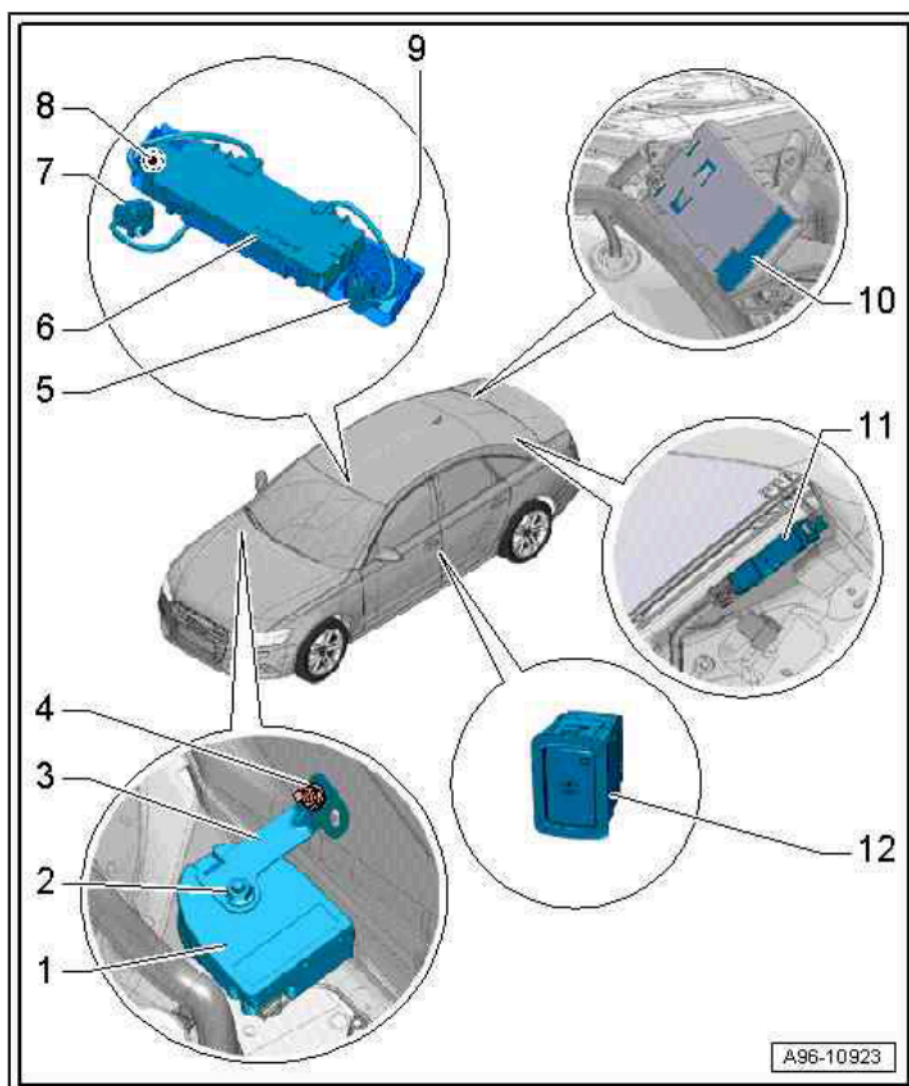
- ❑ For anti-theft alarm sensor - G578- and for individual sensors (left and right)

##### 10 - Convenience system central control unit - J393-

- ❑ Removing and installing ⇒ General body repairs, exterior; Rep. gr. 57 ; Central locking system; Removing and installing convenience system central control unit - J393-

##### 11 - Aerial amplifier 2 - R111-

- ❑ With central locking and anti-theft alarm system aerial - R47-





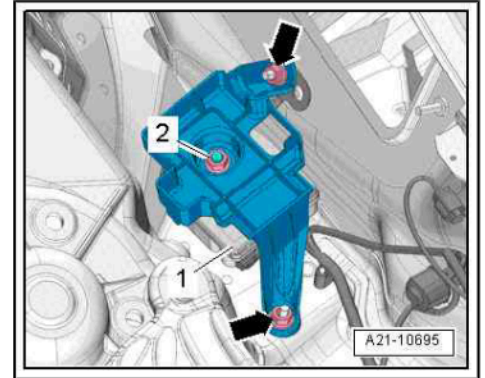
- ☐ Removing and installing ⇒ Communication; Rep. gr. 91 ; Aerial systems; Removing and installing aerial amplifier

#### 12 - Alarm system off switch - E217-

- ☐ Overview of fitting locations ⇒ [page 323](#)

Retainer for control unit for structure-borne sound - tightening torque

- Tighten nuts -arrows- to 3 Nm.



### 4.1.2 Overview - interior monitoring, Avant

#### 1 - Alarm horn - H12-

- ☐ Removing and installing  
⇒ [page 362](#)

#### 2 - Nut

- ☐ 3 Nm

#### 3 - Bracket

- ☐ For alarm horn - H12-

#### 4 - Nut

- ☐ 3 Nm

#### 5 - Individual sensor for interior monitor (left-side)

- ☐ Can only be renewed together with anti-theft alarm sensor - G578-

#### 6 - Anti-theft alarm sensor - G578-

- ☐ Removing and installing  
⇒ [page 363](#)

#### 7 - Individual sensor

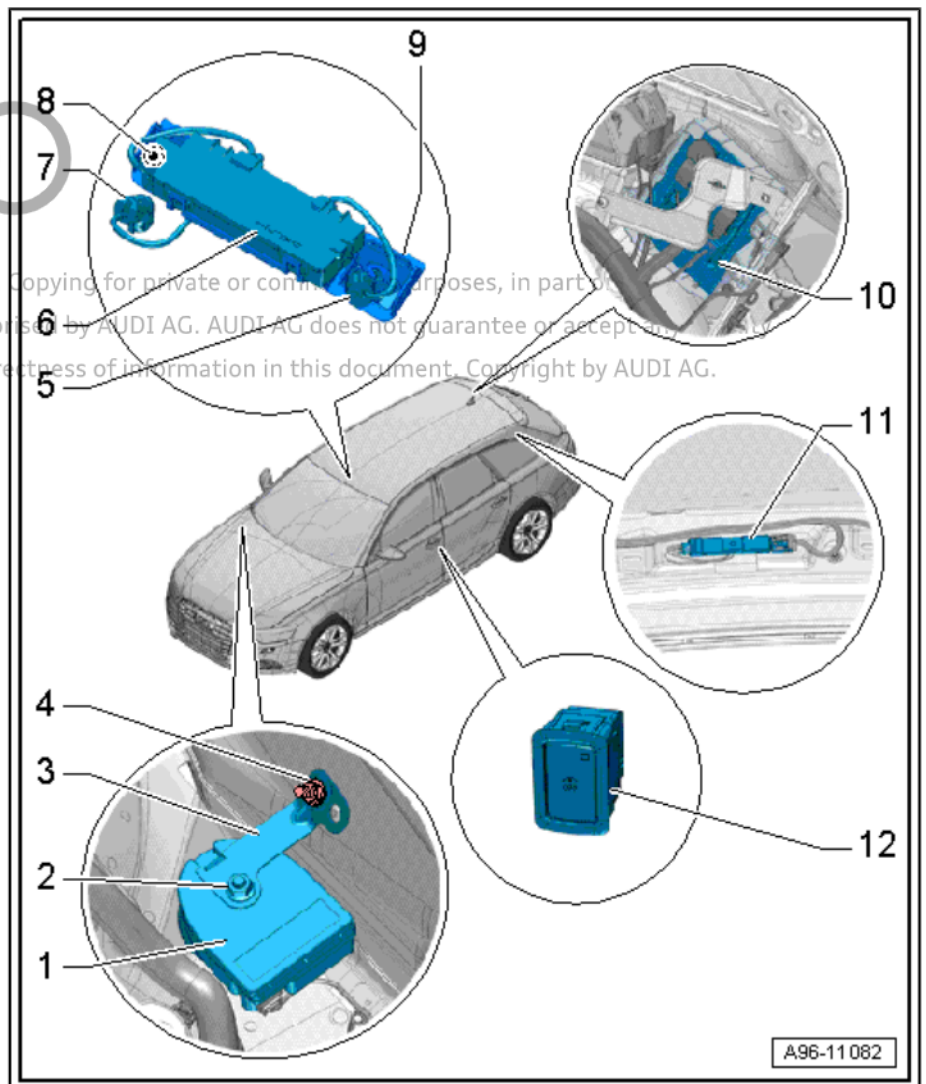
- ☐ For anti-theft alarm sensor - G578-
- ☐ Removing and installing  
⇒ "4.3 Removing and installing anti-theft alarm sensor G578",  
[page 363](#)

#### 8 - Individual sensor for interior monitor (right-side)

- ☐ Can only be renewed together with anti-theft alarm sensor - G578-

#### 9 - Mounting

- ☐ For anti-theft alarm sensor - G578- and for individual sensors (left and right)







#### 10 - Convenience system central control unit - J393-

- ❑ Removing and installing ⇒ General body repairs, exterior; Rep. gr. 57 ; Central locking system; Removing and installing convenience system central control unit - J393-

#### 11 - Aerial amplifier 2 - R111-

- ❑ With central locking and anti-theft alarm system aerial - R47-
- ❑ Removing and installing ⇒ Communication; Rep. gr. 91 ; Aerial systems; Removing and installing aerial amplifier

#### 12 - Alarm system off switch - E217-

- ❑ Overview of fitting locations ⇒ [page 323](#)

## 4.2 Removing and installing alarm horn - H12-

### Removing

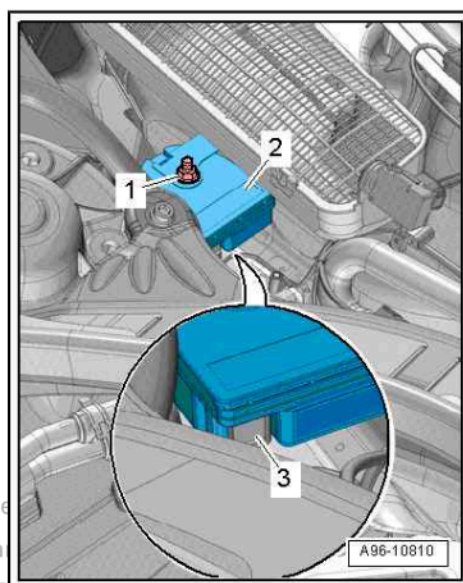
- Remove plenum chamber cover ⇒ General body repairs, exterior; Rep. gr. 50 ; Bulkhead; Removing and installing plenum chamber cover .

#### Vehicles without control unit for structure-borne sound:

- Unscrew nut -1-.
- Unplug electrical connector -3-.
- Lift out alarm horn -2-.



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#### Vehicles with control unit for structure-borne sound:

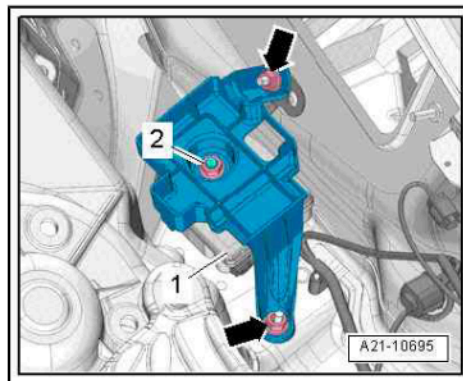
- Remove control unit for structure-borne sound ⇒ Rep. gr. 23 ; Senders and sensors .
- Unscrew nuts -arrows- and detach retainer.
- Unscrew nut -2-.
- Unplug electrical connector.
- Lift out alarm horn -1-.

### Installing

Installation is carried out in reverse sequence.

### Tightening torques

- ♦ ⇒ ["4.1 Overview - interior monitoring", page 360](#)
- ♦ ⇒ [Fig. "Retainer for control unit for structure-borne sound - tightening torque", page 361](#)



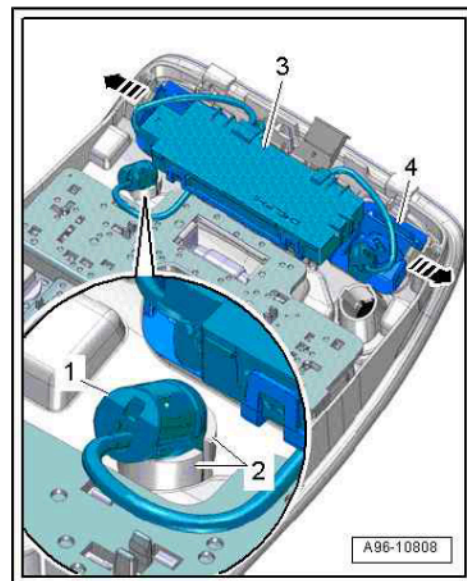




### 4.3 Removing and installing anti-theft alarm sensor - G578-

#### Removing

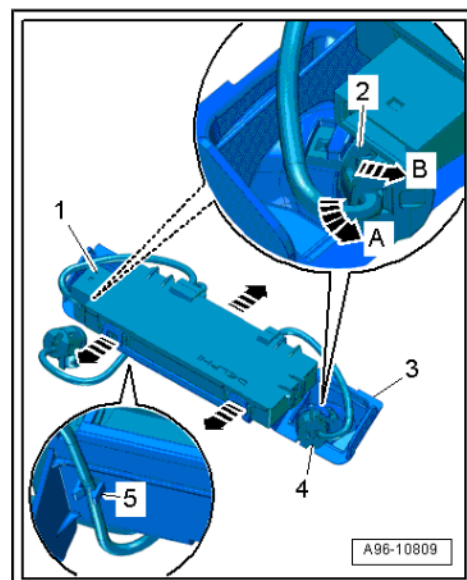
- Remove interior light/reading light (front) ➔ [page 352](#) .
- Pull individual sensor -1- out of mounting -2-.
- Release retaining tabs -arrows- and remove mounting -4- with anti-theft alarm sensor from interior light/reading light -3-.



- Move clear electrical wiring -5-.
- Press retaining tabs to one side -arrows- and take anti-theft alarm sensor -1- out of mounting -3-.
- Turn individual sensors -2, 4- anti-clockwise as far as stop -arrow A- and pull out of mounting -arrow B-.
- Detach anti-theft alarm sensor.

#### Installing

Installation is carried out in reverse sequence.



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## 5 Immobiliser

⇒ ["5.1 Removing and installing immobiliser reader coil", page 364](#)

### 5.1 Removing and installing immobiliser reader coil

⇒ ["5.1.1 Removing and installing immobiliser reader coil D2 ", page 364](#)

⇒ ["5.1.2 Removing and installing mounting for immobiliser reader coil D2 ", page 364](#)

#### 5.1.1 Removing and installing immobiliser reader coil - D2-

##### Removing

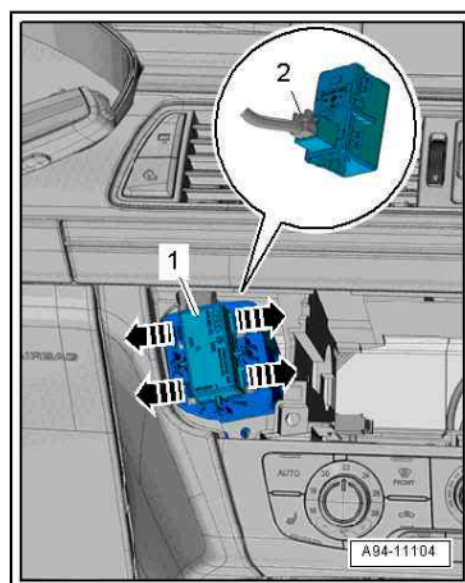
- Remove control unit 1 for information electronics - J794- ⇒ Communication; Rep. gr. 91 ; Infotainment system; Removing and installing control unit 1 for information electronics - J794- .
- Release retaining tabs -arrows- and pull immobiliser reader coil -1- out of mounting.
- Unplug electrical connector -2-.

##### Installing

Installation is carried out in reverse sequence.

##### Tightening torques

- ◆ ⇒ ["11.1 Exploded view - steering column switch module", page 278](#)



#### 5.1.2 Removing and installing mounting for immobiliser reader coil - D2-

##### Removing

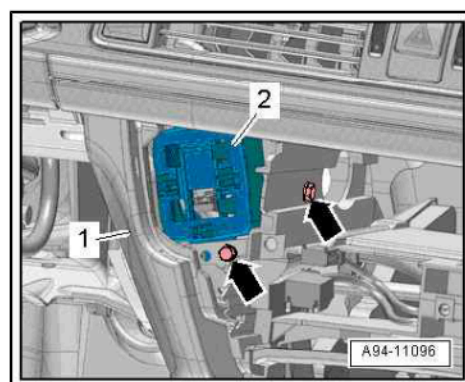
- Remove immobiliser reader coil ⇒ [page 364](#) .
- Remove dash panel cover (driver side) ⇒ General body repairs, interior; Rep. gr. 68 ; Storage compartments/covers/trim panels; Removing and installing dash panel cover (driver side) .
- Remove bolts -arrows-.
- Take mounting -2- out of dash panel -1- towards rear in direction of driver's footwell.

##### Installing

Installation is carried out in reverse sequence.

##### Tightening torques

- ◆ ⇒ ["11.1 Exploded view - steering column switch module", page 278](#)





## 6 Lane change assist

⇒ "6.1 Overview - lane change assist", page 365

⇒ "6.2 Removing and installing button for lane change assist E530", page 366

⇒ "6.3 Removing and installing lane change assist warning lamp in exterior mirror K233 / K234", page 366

⇒ "6.4 Removing and installing lane change assist control unit J769 / J770", page 367

⇒ "6.5 Calibrating lane change assist", page 367

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### 6.1 Overview - lane change assist

1 - Button for lane change assist - E530-

- ❑ Removing and installing  
⇒ [page 366](#)

2 - Lane change assist warning lamp in driver side exterior mirror - K233-

- ❑ Removing and installing  
⇒ [page 366](#)

3 - Lane change assist warning lamp in front passenger side exterior mirror - K234-

- ❑ Removing and installing  
⇒ [page 366](#)

4 - Bolt

- ❑ 3x
- ❑ 2 Nm

5 - Lane change assist control unit - J769-

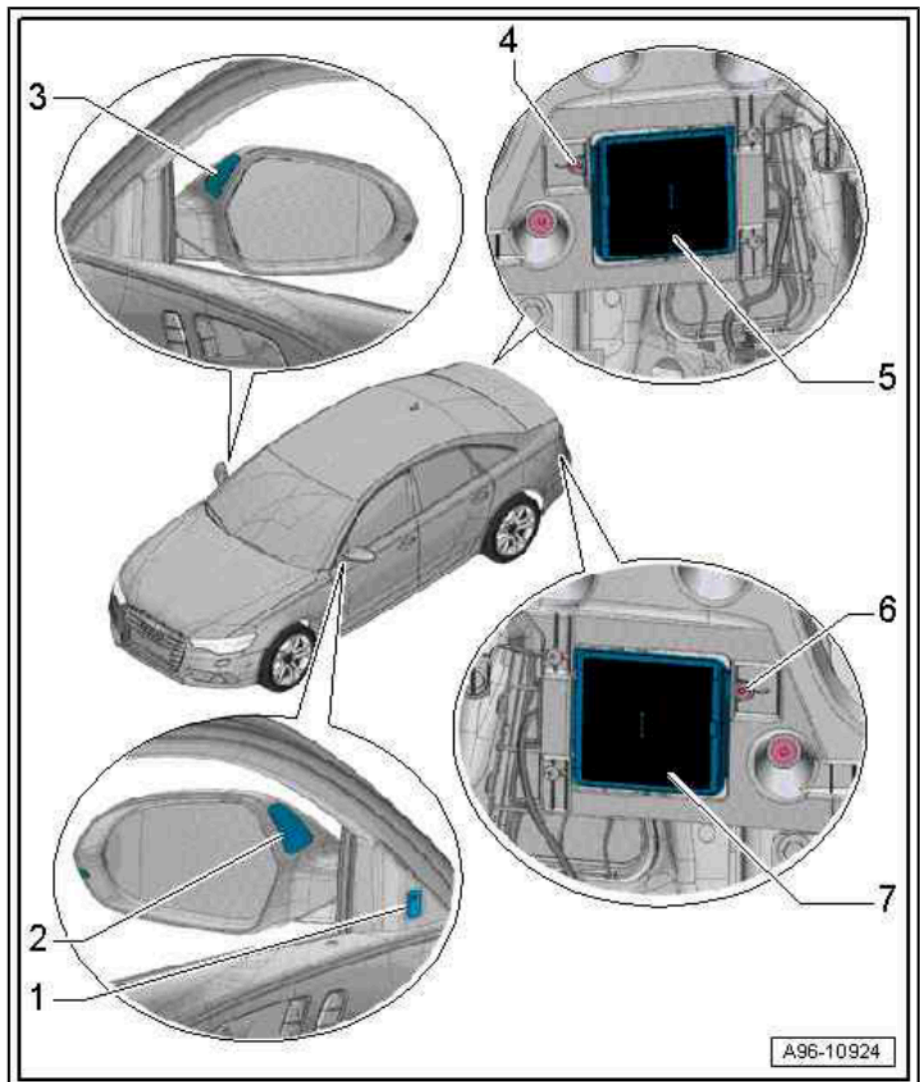
- ❑ Removing and installing  
⇒ [page 367](#)
- ❑ Calibrating ⇒ [page 367](#)

6 - Bolt

- ❑ 3x
- ❑ 2 Nm

7 - Lane change assist control unit 2 - J770-

- ❑ Removing and installing  
⇒ [page 367](#)
- ❑ Calibrating ⇒ [page 367](#)





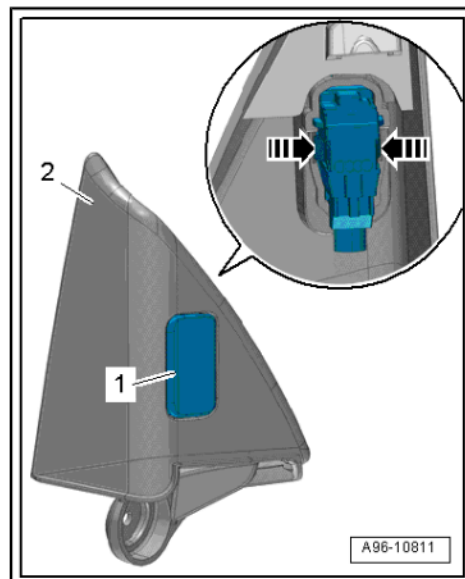
## 6.2 Removing and installing button for lane change assist - E530-

### Removing

- Remove inner cover ⇒ General body repairs, interior; Rep. gr. 70 ; Door trim (front); Exploded view - door trim (front) .
- Release retaining clips -arrows- and press button for lane change assist -1- out of cover -2-.

### Installing

Installation is carried out in reverse sequence.



## 6.3 Removing and installing lane change assist warning lamp in exterior mirror - K233- / -K234-

### Removing

- Remove mirror glass ⇒ General body repairs, exterior; Rep. gr. 66 ; Exterior mirrors; Removing and installing mirror glass .
- Unplug electrical connector -1-.
- Release retaining tab -arrow A- and press warning lamp -2- out of exterior mirror housing -3- -arrow B-.

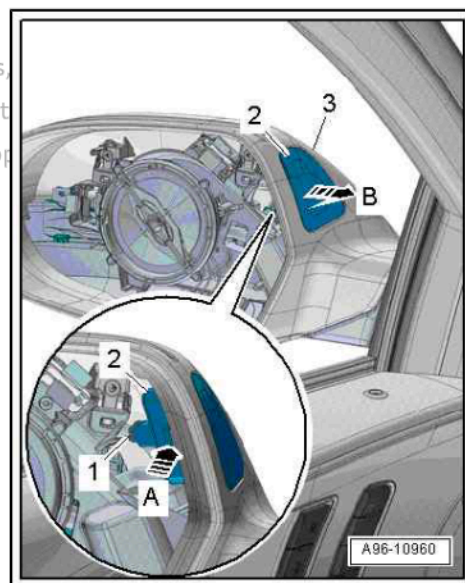
### Installing

Installation is carried out in reverse order; note the following:



#### Note

*Warning lamp for lane change assist in exterior mirror must be replaced completely with a new unit if an LED is defective.*







## 6.4 Removing and installing lane change assist control unit -J769- / -J770-

### Removing

- Remove outer bumper cover mounting ⇒ General body repairs, exterior; Rep. gr. 63 ; Bumper (rear); Removing and installing attachments .
- Remove bolts -arrows-.
- Remove lane change assist control unit -2- from mounting -1-.

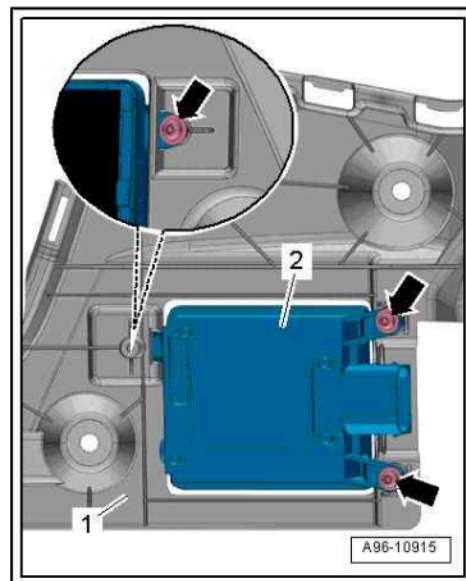
### Installing

Installation is carried out in reverse order; note the following:

- Calibrate lane change assist control unit -J769- / -J770- ⇒ [page 367](#) .

### Tightening torques

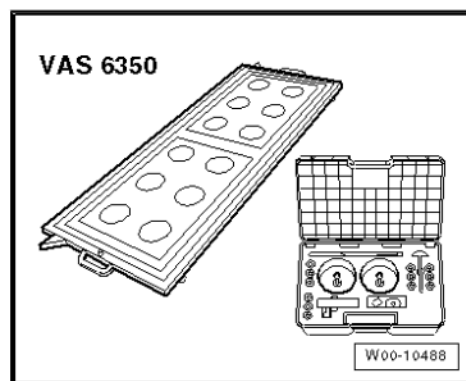
- ◆ ⇒ [“6.1 Overview - lane change assist”, page 365](#)



## 6.5 Calibrating lane change assist

Special tools and workshop equipment required

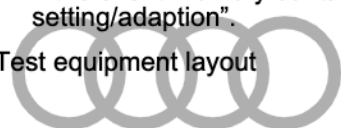
- ◆ Calibration unit - VAS 6350-



### Requirements

- The lane change assist control unit -J769- / -J770- must be calibrated in “Guided Fault Finding” or “Guided Functions” mode under the following conditions ⇒ Vehicle diagnostic test-er:
  - If lane change assist control unit - J769- or lane change assist control unit 2 - J770- has been renewed.
  - If the rear bumper cover has been damaged, for instance when parking the car.
  - If the rear bumper cover has been removed and installed.
  - If the event memory contains the entry “no or incorrect basic setting/adaption”.

### Test equipment layout



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1 - Spacing laser -VAS 6350/2-

- ☐ For distance measurement
- ☐ For use refer to ⇒ Operating instructions for calibration unit - VAS 6350-

2 - Calibration unit - VAS 6350-

3 - Spirit level

- ☐ On calibration unit - VAS 6350-
- ☐ For checking horizontal position of calibration unit - VAS 6350-

4 - Locating bracket

- ☐ For mounting spacing laser -VAS 6350/2- for distance measurement
- ☐ Distance to wheel centre mountings -VAS 6350/1- on rear wheels: dimension -a- =  $1700 \pm 2$  mm

5 - Wheel centre mounting - VAS 6350/1-

- ☐ With wheel bolt adapter and measuring paddle

6 - Logo

- ☐ Laser pointer is aligned with centre of logo

7 - Calibration unit for lane change assist -VAS 6350/4-

- ☐ Is moved from one side of measuring field to other during calibration
- ☐ Voltage supply must be connected to bottom left of calibration unit (in direction of travel)

8 - Measuring scale

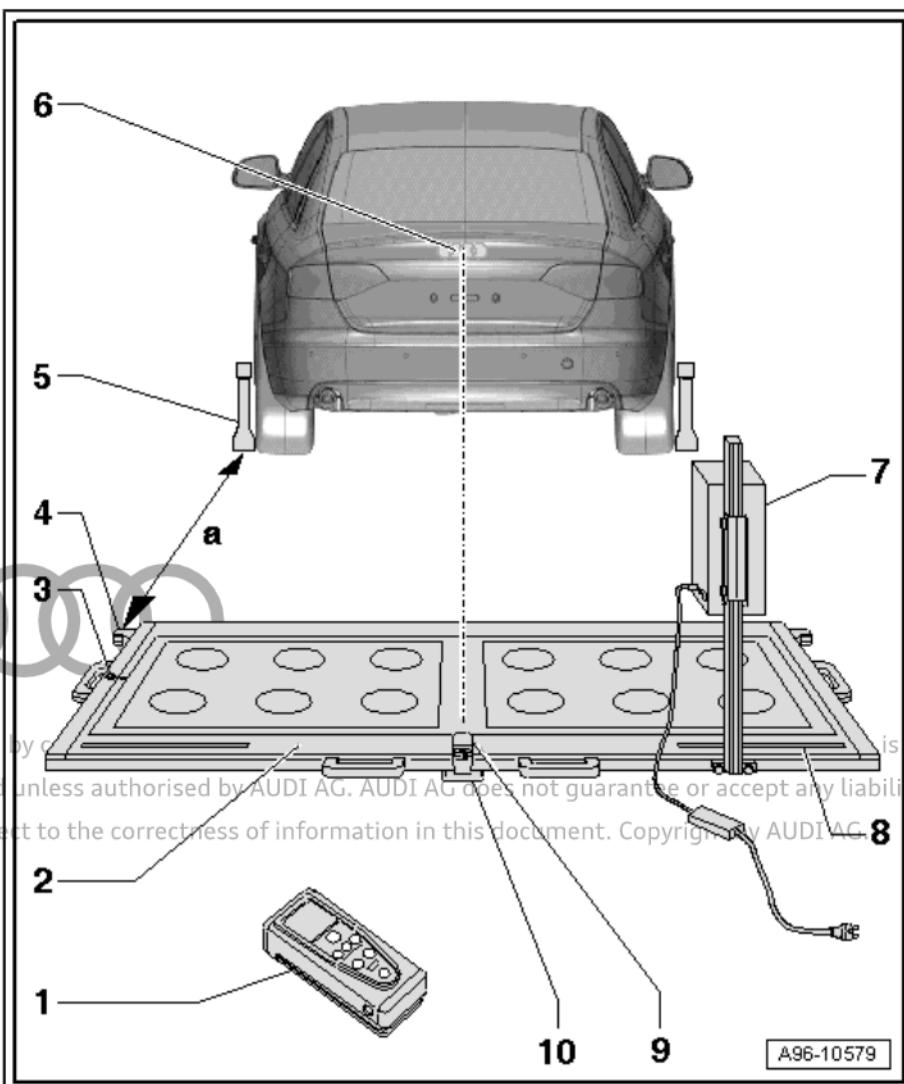
- ☐ For positioning the calibration unit for lane change assist -VAS 6350/4-

9 - Linear laser - VAS 6350/3-

- ☐ With laser protection goggles
- ☐ On calibration unit - VAS 6350-
- ☐ Switching on and off ⇒ Operating instructions for calibration unit - VAS 6350-

10 - Plastic foot

- ☐ 3x
- ☐ Adjustable, for aligning horizontal position of calibration unit - VAS 6350-



### Preparations

- Vehicle must be standing on a smooth and level surface.
- Apply parking brake – the vehicle must not be moved while the calibration procedure is being performed.
- Make sure steering wheel is at centre position with wheels pointing straight ahead.
- Connect vehicle diagnostic tester ⇒ Vehicle diagnostic tester.



#### Note

*If a fault message appears on the display, refer to ⇒ Operating instructions for vehicle diagnostic tester.*

- Switch on ignition.
- Remove any stickers with metal film from the bumper cover.
- Fit three suitable wheel bolt adapters onto each wheel centre mounting - VAS 6350/1- .
- Fit measuring paddle onto each of the wheel centre mountings -VAS 6350/1- and secure each paddle with lock nut.
- Fit wheel centre mountings - VAS 6350/1- onto wheel bolts on both rear wheels.
- Centre of rotation of wheel centre mounting must align with centre of rotation of wheel.

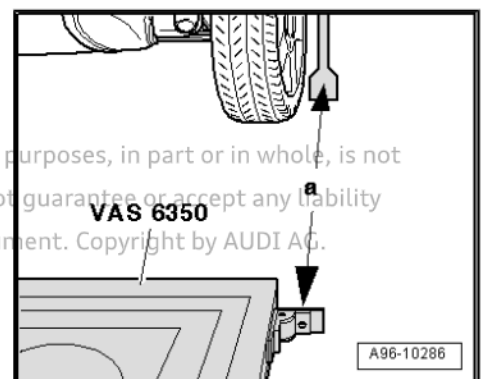
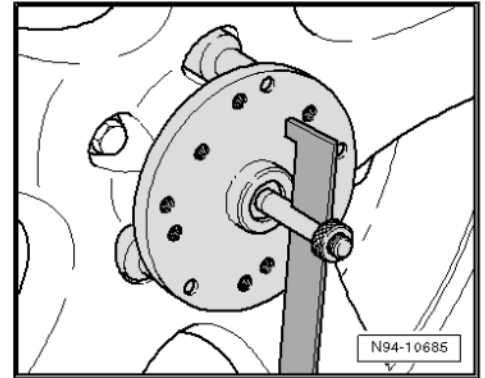


#### Note

*When fitting the wheel centre mountings - VAS 6350/1- onto the wheels, make sure that the "anti-theft wheel bolts" do not come into contact with the wheel centre mounting.*

- Use lock nuts to adjust measuring paddles so that they are free to move just slightly above the ground.
- Measuring paddles must move freely.
- Measuring paddle must be in an upright position.
- Position the calibration unit - VAS 6350- at a distance of -a- from rear wheels.
- Dimension -a- = 1700 mm

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- Switch on spacing laser -VAS 6350/2- by pressing **[ON]** button.

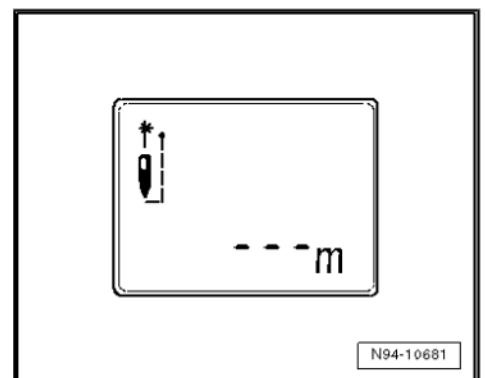
Display on -VAS 6350/2- :

- " - - - m"



#### Note

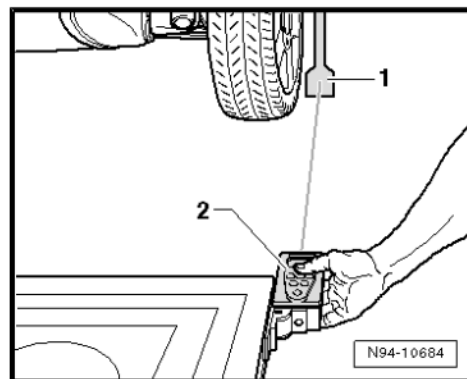
*The laser is switched on simultaneously.*





- To measure distance, hold spacing laser -VAS 6350/2- -item 2- flush with right locating bracket as shown in illustration.
- Spacing laser -VAS 6350/2- must be steady and flush with locating bracket.
- Make sure that laser beam for distance measurement hits lower (larger) part of measuring paddle -1-.

If this is not the case, adjust height of measuring paddles using lock nuts on wheel centre mountings - VAS 6350/1- .



- Press **ON** button briefly to measure distance.

Display on -VAS 6350/2- :

- "1.700 m" (specification:  $1,700 \pm 2$  mm).
- Repeat measurement from locating bracket (left-side) to rear left wheel.
- Measured distance value must be identical on both sides.

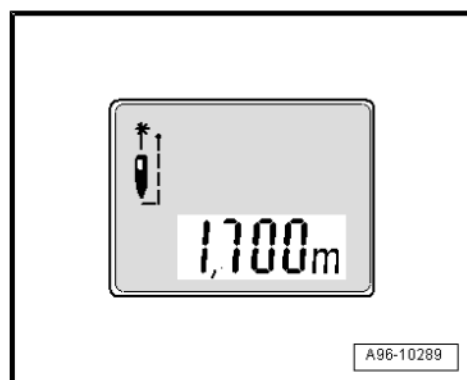
If the two measured values are not identical, re-align calibration unit - VAS 6350- .

#### Performing calibration

⇒ Vehicle diagnostic tester must be connected.

- Select **Diagnosis** mode and begin diagnosis.
- Select **Test plan** tab.
- Choose **Select own test** and select following options one after the other:
  - ◆ Body
  - ◆ Electrical system
  - ◆ 01 - Self-diagnosis compatible systems
  - ◆ 3C - Lane change assist control unit - J769
  - ◆ 3C - Lane change assist control unit, functions
  - ◆ 3C - Calibration

Further instructions are given by ⇒ Vehicle diagnostic tester during calibration procedure.



#### Note

- ◆ The system will now inform you which lane change assist version is fitted in the vehicle (version: SWA 1.7).
- ◆ This information for setting the calibration unit is important for the work sequence to be followed and to avoid malfunctions.

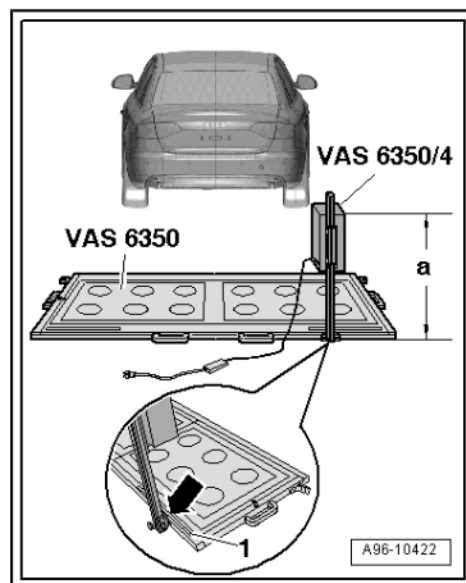
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- Secure calibration unit for lane change assist -VAS 6350/4- to mounting bracket (rear right) on calibration unit - VAS 6350- .
- Voltage supply must be connected to bottom left of calibration unit (in direction of travel)

Dimension -a- (measured between top edge of calibration unit and ground).



Model		A6 Saloon (2K1/2K2) A6 Saloon S line (2K7/2K8) S6 Saloon (2K3/2K4)	A6 Avant (2K1/2K2) A6 Avant S line (2K7/2K8) S6 Avant (2K3/2K4)	A6 allroad quattro	RS 6 Avant	A6 Saloon e- tron, China
Setting dimension (height) in mm	Lane change assist 1.7	810	810	800	810	
Dimension -a-	Lane change assist 2.0	788	788	806	821	814

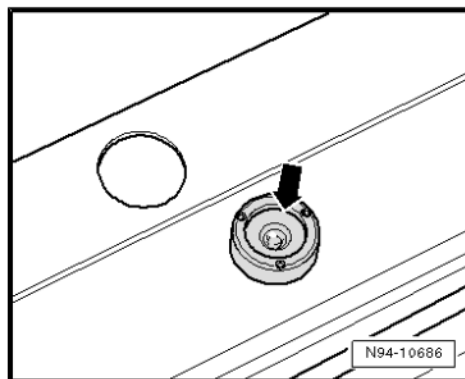
- Pointer at base of calibration unit for lane change assist -VAS 6350/4- must align with setting dimension on graduated scale -1- at measuring field -arrow-.

Model		A6 Saloon (2K1/2K2) A6 Saloon S line (2K7/2K8) S6 Saloon (2K3/2K4)	A6 Avant (2K1/2K2)	A6 Avant S line (2K7/2K8) S6 Avant (2K3/2K4)	A6 allroad quattro	RS 6 Avant	A6 Saloon e- tron, China
Setting dimension (right-side) read off in mm from measuring scale -1-	Lane change assist 1.7	790	790	790	790	790	
	Lane change assist 2.0	845	760	836	835	833	845

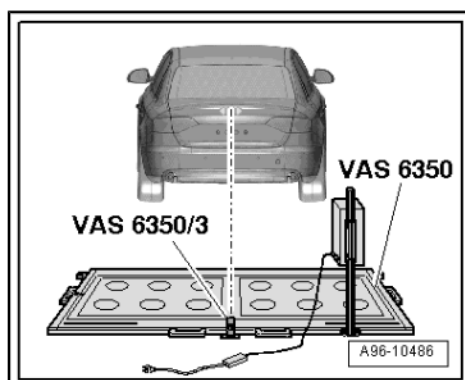
- Connect calibration unit for lane change assist -VAS 6350/4- up to voltage supply.



- Align calibration unit - VAS 6350- horizontally by turning plastic feet.
- Check spirit level on calibration unit - VAS 6350- -arrow-.



- Switch on linear laser - VAS 6350/3- on calibration unit - VAS 6350- .
- Put on laser protection goggles.
- Align calibration unit - VAS 6350- so that beam from linear laser - VAS 6350/3- hits centre of logo on rear lid.



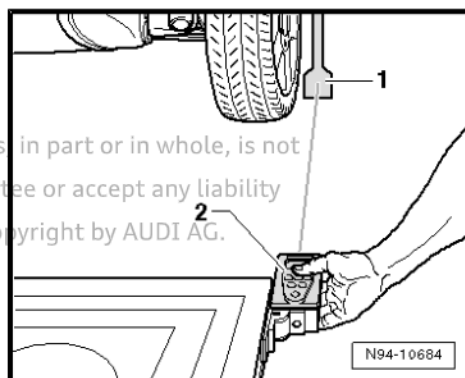
- Again check distance (left and right) between locating brackets of calibration unit - VAS 6350- and measuring paddles -1- on wheel mountings.

- Specification:  $1,700 \pm 2$  mm

#### Calibration procedure

Please adhere to the following rules during the calibration procedure:

- There must not be any metallic reflectors (e.g. tool trolleys, metal cabinets) within 2 metres of the calibration unit.
- Vehicle doors must not be opened or closed.
- No-one must sit in vehicle.
- Do not allow any person to walk between vehicle and calibration unit for lane change assist -VAS 6350/4- .



#### Procedure

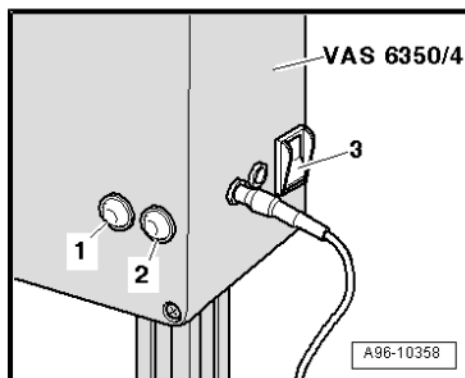
- Switch on calibration unit for lane change assist -VAS 6350/4- with power switch -3-.
- The green LED -1- must light up.



#### Note

If the red LED -2- lights up: check calibration unit for lane change assist -VAS 6350/4- .

- Continue to follow the instructions on the display of the vehicle diagnostic tester.

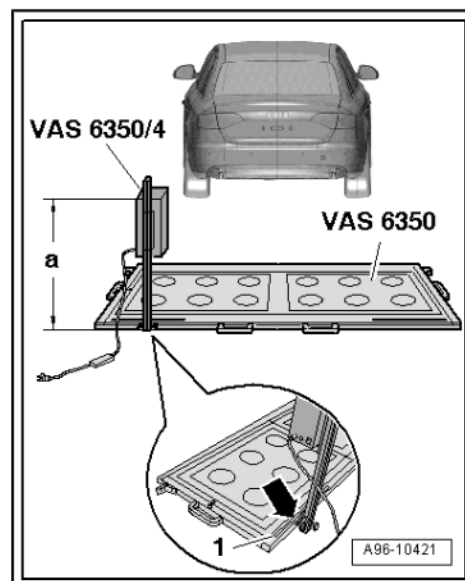




During the program, you are prompted to move the calibration unit for lane change assist -VAS 6350/4- from the right to the left side of the calibration unit - VAS 6350- .

- Switch off calibration unit for lane change assist -VAS 6350/4- and move calibration unit.
- Voltage supply must be connected to bottom left of calibration unit (in direction of travel)

Dimension -a- (measured between top edge of calibration unit and ground).



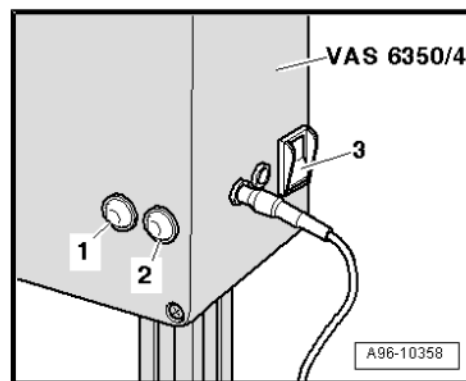
Model		A6 Saloon (2K1/2K2) A6 Saloon S line (2K7/2K8) S6 Saloon (2K3/2K4)	A6 Avant (2K1/2K2) A6 Avant S line (2K7/2K8) S6 Avant (2K3/2K4)	A6 allroad quattro	RS 6 Avant	A6 Saloon e- tron, China
Setting dimension (height) in mm	Lane change assist 1.7	810	810	800	810	
Dimension -a-	Lane change assist 2.0	788	788	806	821	814

- Pointer at base of calibration unit for lane change assist -VAS 6350/4- must align with setting dimension on graduated scale -1- at measuring field -arrow-.

Model		A6 Saloon (2K1/2K2) A6 Saloon S line (2K7/2K8) S6 Saloon (2K3/2K4)	A6 Avant (2K1/2K2)	A6 Avant S line (2K7/2K8) S6 Avant (2K3/2K4)	A6 allroad quattro	RS 6 Avant	A6 Saloon e- tron, China
Setting dimension (left-side) read off in mm	Lane change assist 1.7	790	790	790	790	790	
from measuring scale -1-	Lane change assist 2.0	845	760	836	835	833	845



- Switch on calibration unit for lane change assist -VAS 6350/4- with power switch -3-.
- The green LED -1- must light up.
- Continue to follow the instructions on the display of the vehicle diagnostic tester.
- After completing calibration of lane change assist, end "Calibration", switch off ignition and unplug diagnostic connector.



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## 7 Front camera for driver assist systems

⇒ ["7.1 Overview of fitting locations - front camera for driver assist systems", page 375](#)

⇒ ["7.2 Removing and installing front camera for driver assist systems", page 376](#)

⇒ ["7.3 Removing and installing image processing control unit J851", page 378](#)

### 7.1 Overview of fitting locations - front camera for driver assist systems

⇒ ["7.1.1 Overview of fitting locations - front camera for driver assist systems", page 375](#)

⇒ ["7.1.2 Overview of fitting locations - front camera for driver assist systems, image processing control unit J851", page 376](#)

#### 7.1.1 Overview of fitting locations - front camera for driver assist systems

##### 1 - Retaining plate

- ☐ With windscreen heating of camera control unit - J852-
- ☐ Cannot be removed from windscreen

##### 2 - Backlight masking screen

- ☐ Removing and installing  
⇒ ["7.2 Removing and installing front camera for driver assist systems", page 376](#)

##### 3 - Electrical connector

##### 4 - Trim cover

##### 5 - Camera control unit - J852-

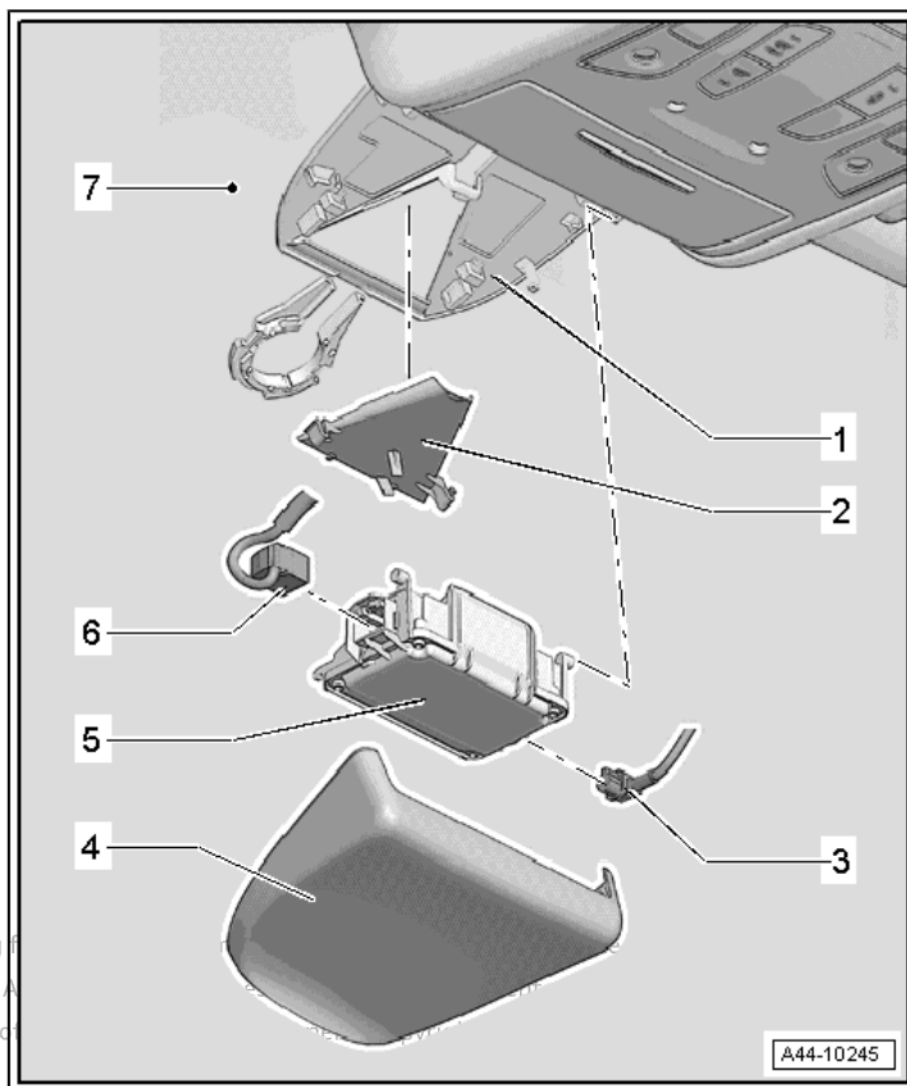
- ☐ Removing and installing  
⇒ [page 376](#)

##### 6 - Electrical connector

##### 7 - Windscreen



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## 7.1.2 Overview of fitting locations - front camera for driver assist systems, image processing control unit - J851-

1 - Electrical connector

2 - Image processing control unit - J851-

❑ Removing and installing  
⇒ [page 378](#)

3 - Bracket

❑ For image processing control unit - J851-

4 - Nut

❑ 4x  
❑ 2.5 Nm

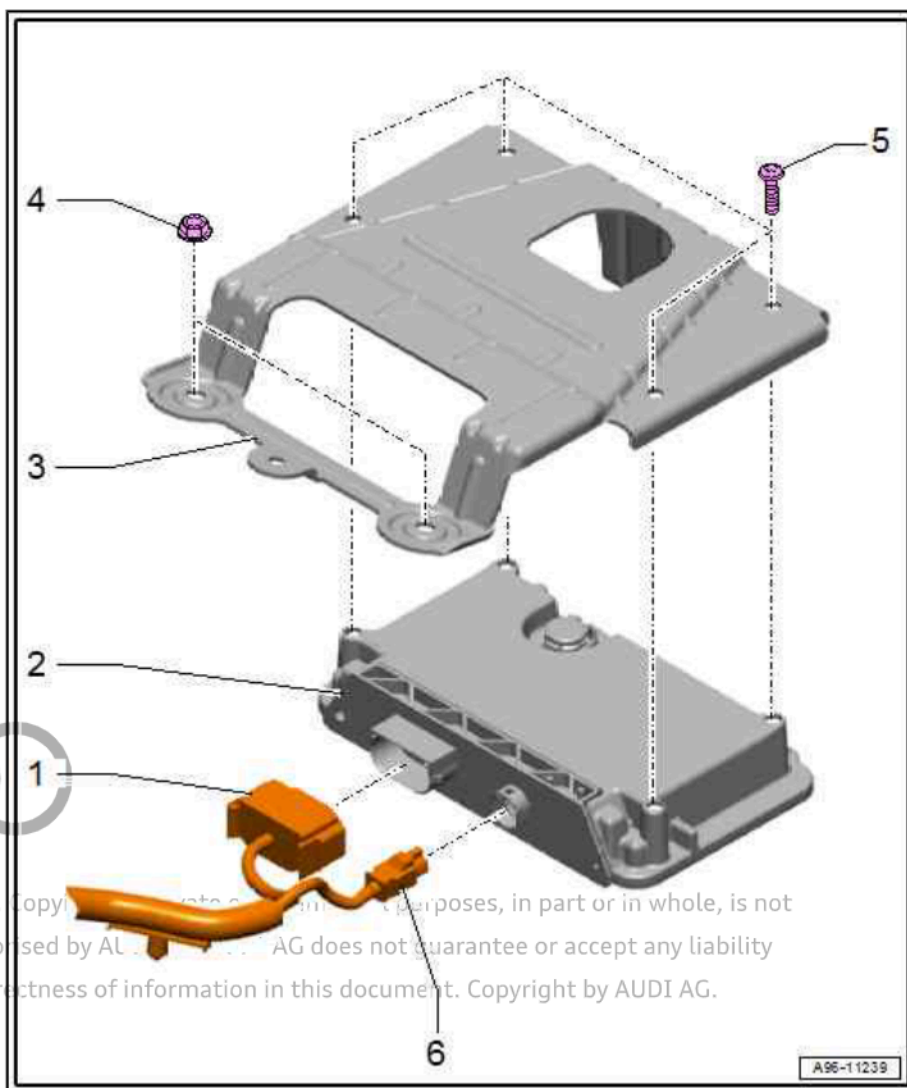
5 - Bolt

❑ 4x  
❑ 8 Nm

6 - Aerial wire



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## 7.2 Removing and installing front camera for driver assist systems

Special tools and workshop equipment required

◆ Front-end hook - 3370-



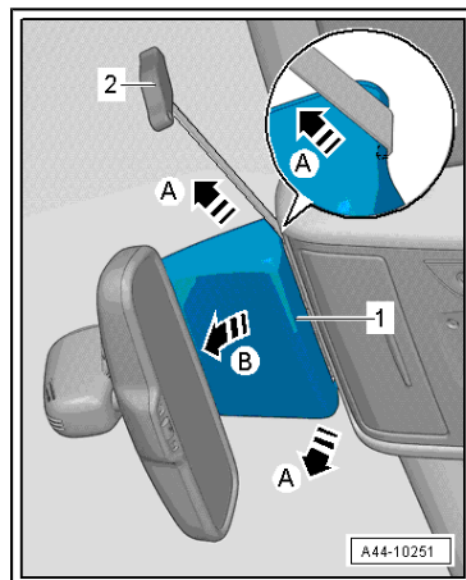


#### Note

*If control unit is to be renewed, select the "Replace control unit" function for appropriate control unit in ➔ Vehicle diagnostic tester.*

#### Removing

- Using front-end hook - J852- -2-, release trim cover -1- for camera control unit - 3370- from retaining plate in direction of -arrow A- (alternating between right and left sides), and detach downwards in direction of -arrow B-.
- If necessary, move clear electrical wiring.



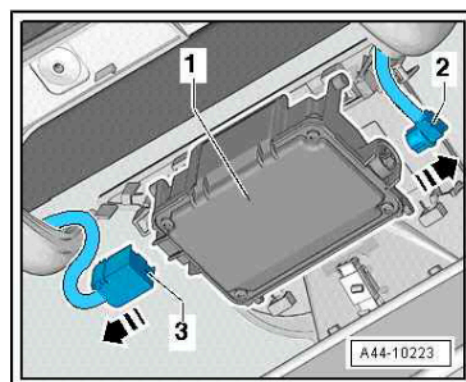
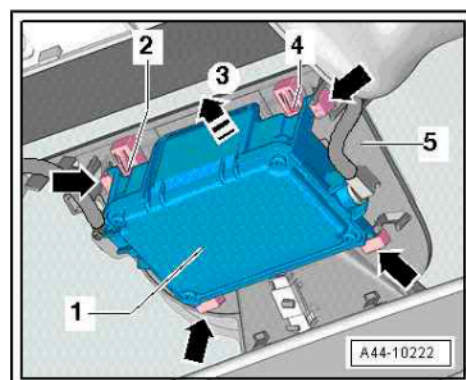
- Press retaining tabs -2- and -4- upwards.



#### Note

*Carefully push the retaining tabs upwards only until it is possible to guide the camera control unit - J852- past them.*

- Pull camera control unit - J852- -1- out of mountings -arrows- on retaining plate -5- towards rear in direction of -arrow 3-, keeping it parallel with retaining plate -5-.
- Unplug electrical connectors -2- and -3- and remove camera control unit - J852- -1-.



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## Removing backlight masking screen

- Press clips together in direction of -arrows- and pull backlight masking screen out of bracket towards front.

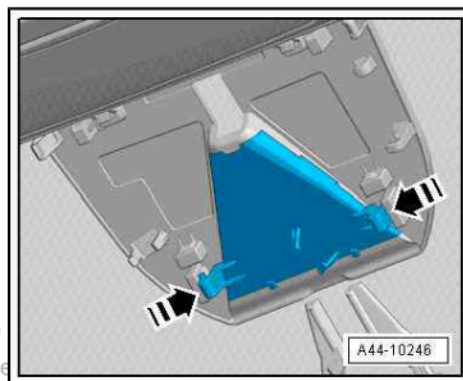
## Installing

Installation is carried out in reverse sequence. Note the following:



### Note

*The camera's area of vision on the inside of the windscreen must not be obstructed by condensation or dirt.*



- Clean the camera's area of vision on the windscreen with cleaning fluid - D 009 401 04- .
- Calibrate front camera for driver assist systems ⇒ Running gear, axles, steering; Rep. gr. 44 ; Front camera for driver assist systems; Calibrating front camera for driver assist systems .

## 7.3 Removing and installing image processing control unit - J851-



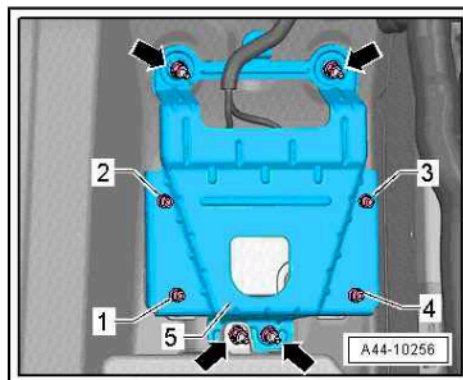
### Note

*If control unit is to be renewed, select the "Replace control unit" function for appropriate control unit in ⇒ Vehicle diagnostic tester.*

## Removing

The image processing control unit - J851- is located in the front passenger's footwell.

- Remove sill panel trim (front) ⇒ General body repairs, interior; Rep. gr. 70 ; Passenger compartment trim panels; Removing and installing sill panel trim .
- Remove floor mat.
- Remove foot rest ⇒ General body repairs, interior; Rep. gr. 70 ; Passenger compartment trim panels; Removing and installing foot rest .
- Unbolt front passenger's seat and push backwards with wiring still attached ⇒ General body repairs, interior; Rep. gr. 72 ; Front seats; Removing and installing front seat .
- Unhook floor covering and press to one side.
- Remove nuts -arrows-.
- Remove bolts -1 ... 4- and detach bracket -5- from image processing control unit.





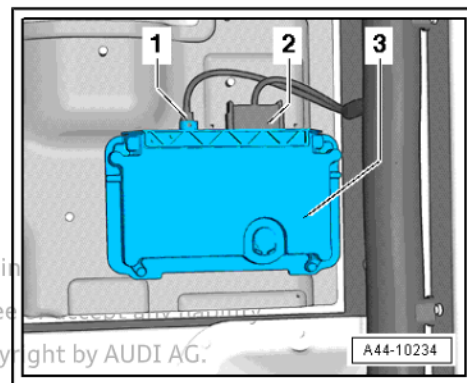
- Unplug electrical connector -2- and aerial wire -1-.
- Remove image processing control unit -3- from front passenger's footwell.

#### Installing

Installation is carried out in reverse sequence.

#### Tightening torques

- ◆ ➤ [7.1.2 Overview of fitting locations - front camera for driver assist systems, image processing control unit J851.](#), page 376







## 8 Towing bracket

⇒ "8.1 Overview - trailer socket, trailer detector control unit", page 380

⇒ "8.2 Removing and installing LED warning lamp", page 381

⇒ "8.3 Trailer socket", page 381

⇒ "8.4 Removing and installing trailer detector control unit J345", page 381

### 8.1 Overview - trailer socket, trailer detector control unit

#### 1 - LED warning lamp

- ☐ Trailer towing attachment locked warning lamp - K226- , trailer towing attachment released warning lamp - K227-
- ☐ For checking whether towing bracket is properly locked
- ☐ Removing and installing  
⇒ [page 381](#)

#### 2 - Mounting

- ☐ For cable
- ☐ For releasing towing bracket

#### 3 - Retaining frame (top)

- ☐ For trailer detector control unit - J345-

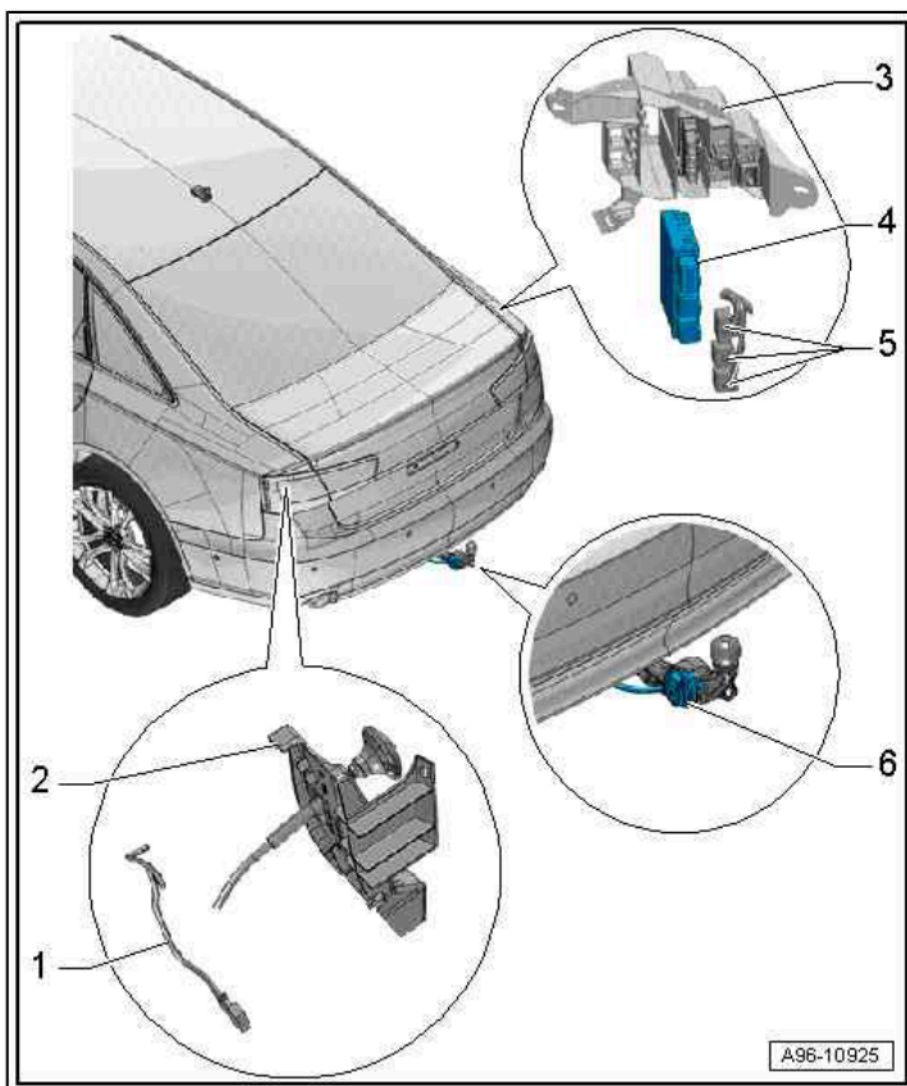
#### 4 - Trailer detector control unit - J345-

- ☐ Removing and installing  
⇒ [page 381](#)

#### 5 - Electrical connectors

#### 6 - Trailer socket - U10-

- ☐ Removing and installing  
⇒ Electrical system;  
General information;  
Rep. gr. 96 ; Towing bracket
- ☐ Pin assignment ⇒ Electrical system; General information; Rep. gr. 96 ; Towing bracket





## 8.2 Removing and installing LED warning lamp

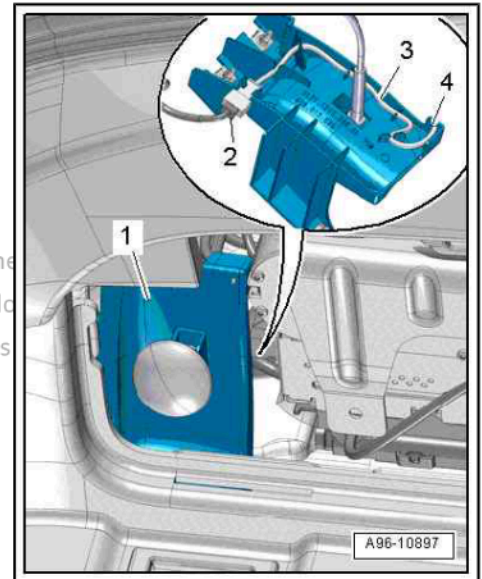
### Removing

- Remove cover for luggage compartment side trim (left-side).
- Take LED warning lamp -4- out of mounting -1- for cable and move electrical wiring -3- clear.
- Take electrical connector -2- out of mounting and unplug.

### Installing

Installation is carried out in reverse sequence.

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## 8.3 Trailer socket

⇒ Electrical system; General information; Rep. gr. 96 ; Towing bracket

## 8.4 Removing and installing trailer detector control unit - J345-

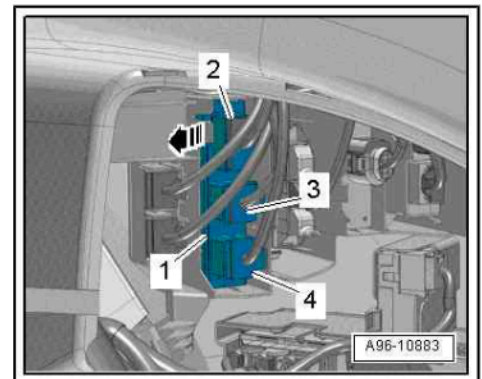
- If control unit is being renewed, select function "Replace" for corresponding control unit in "Guided Fault Finding" or "Guided Functions" mode ⇒ Vehicle diagnostic tester.

### Removing

- Remove cover for luggage compartment side trim (right-side).
- Unplug electrical connectors -2, 3, 4-.
- Release retaining tab -arrow- and pull trailer detector control unit -1- out of retaining frame (top).

### Installing

Installation is carried out in reverse sequence.





## 9 Cigarette lighter, socket

⇒ ["9.1 Exploded view - cigarette lighter, 12 V socket", page 382](#)

⇒ ["9.2 Removing and installing cigarette lighter U1 ", page 385](#)

⇒ ["9.3 Removing and installing socket illumination bulb L42 ", page 387](#)

⇒ ["9.4 Removing and installing rear cigarette lighter illumination bulb L32 ", page 392](#)

⇒ ["9.6 Removing and installing DC/AC converter with socket, 12 V - 230 V U13 ", page 397](#)

⇒ ["9.7 Removing and installing 12 V socket 3 U19 ", page 399](#)

⇒ ["9.8 Renewing 12 V socket 3 U19 ", page 399](#)

### 9.1 Exploded view - cigarette lighter, 12 V socket

⇒ ["9.1.1 Exploded view - cigarette lighter, 12 V socket", page 382](#)

⇒ ["9.1.2 Exploded view - cigarette lighter, 12 V socket and 230 V socket with USB charger", page 384](#)

#### 9.1.1 Exploded view - cigarette lighter, 12 V socket



1 - Front ashtray

- ☐ For cigarette lighter - U1-

2 - Cigarette lighter illumination bulb - L28-

- ☐ For cigarette lighter - U1-
- ☐ Can only be renewed together with cigarette lighter

3 - Cigarette lighter - U1-

- ☐ Removing and installing ➔ [page 385](#)

4 - Cigarette lighter

5 - 12 V socket - U5-

- ☐ Removing and installing ➔ ["9.3.1 Removing and installing socket illumination bulb L42 , 12 V socket U5", page 387](#)

6 - Storage compartment

- ☐ In centre console

7 - Socket illumination bulb - L42-

- ☐ For 12 V socket - U5-
- ☐ Removing and installing ➔ [page 387](#)

8 - Nut

- ☐ 2 Nm

9 - Cover for luggage compartment side trim

10 - 12 V socket 3 - U19-

- ☐ Removing and installing ➔ [page 399](#)
- ☐ Renewing ➔ [page 399](#)

11 - Mounting with cover

- ☐ For 12 V socket 3 - U19-

12 - 12 V socket 4 - U20-

- ☐ Removing and installing ➔ ["9.3.3 Removing and installing socket illumination bulb L42 , 12 V socket 4 U20", page 391](#)

13 - Cigarette lighter

14 - Rear cigarette lighter - U9-

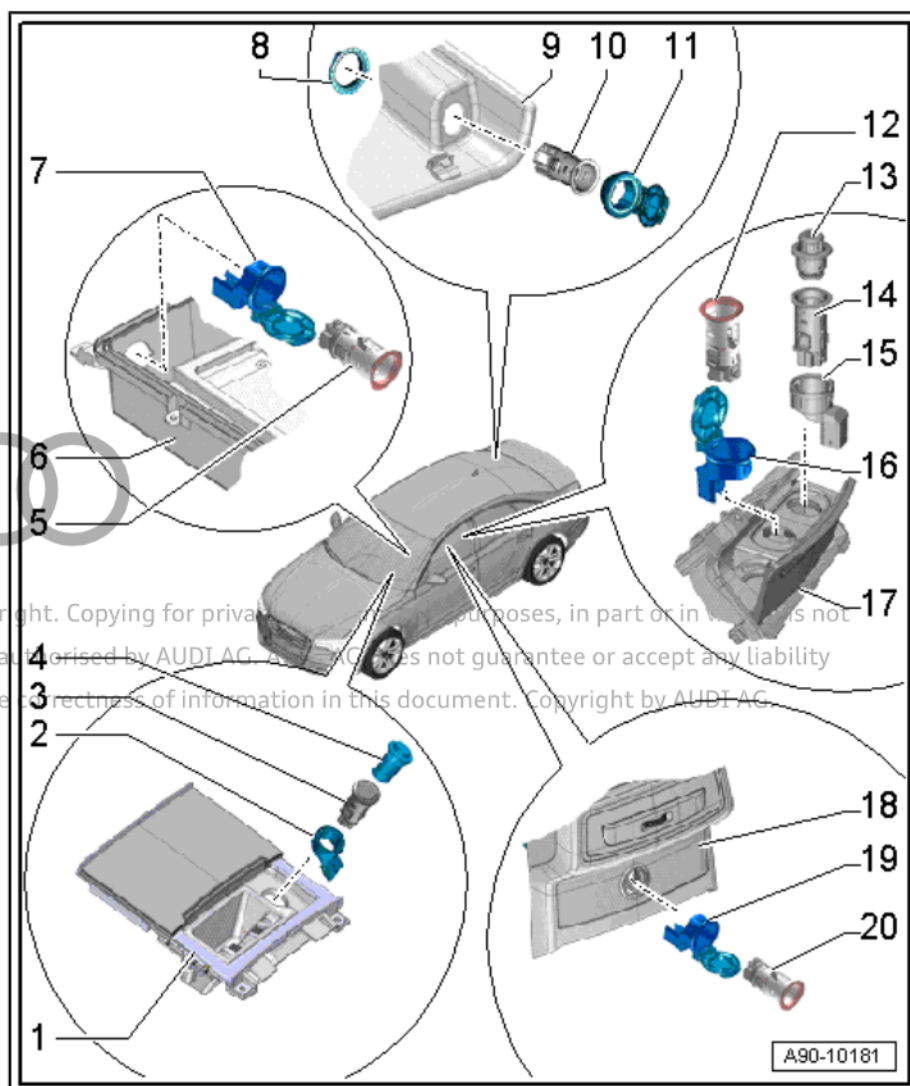
- ☐ Removing and installing ➔ ["9.4.1 Removing and installing rear cigarette lighter illumination bulb L32 - rear cigarette lighter U9", page 392](#)

15 - Rear cigarette lighter illumination bulb - L32-

- ☐ For rear cigarette lighter - U9-
- ☐ Removing and installing ➔ [page 392](#)

16 - Socket illumination bulb - L42-

- ☐ For 12 V socket 4 - U20-
- ☐ Removing and installing ➔ [page 391](#)







#### 17 - Mounting

- ☐ For cigarette lighter and electric socket
- ☐ Different versions

#### 18 - Trim

- ☐ For centre console
- ☐ Different versions

#### 19 - Socket illumination bulb - L42-

- ☐ For 12 V socket 2 - U18-
- ☐ Removing and installing ⇒ [page 389](#)

#### 20 - 12 V socket 2 - U18-

- ☐ Removing and installing  
⇒ ["9.3.2 Removing and installing socket illumination bulb L42 , 12 V socket 2 U18 " , page 389](#)

### 9.1.2 Exploded view - cigarette lighter, 12 V socket and 230 V socket with USB charger

#### 1 - Mounting

#### 2 - Cover

- ☐ For USB charger, 230 V socket and 12 V socket

#### 3 - Bolt

- ☐ 4x
- ☐ 1.2 Nm

#### 4 - Bracket

- ☐ For AC/DC converter with socket, 12 V - 230 V - U13-

- ☐ Removing and installing  
⇒ [page 398](#)

#### 5 - USB charger

- ☐ Combined as one component with AC/DC converter with socket, 12 V - 230 V - U13-

#### 6 - DC/AC converter with socket, 12 V - 230 V - U13-

- ☐ Removing and installing  
⇒ [page 397](#)

#### 7 - 230 V socket

- ☐ Combined as one component with AC/DC converter with socket, 12 V - 230 V - U13-

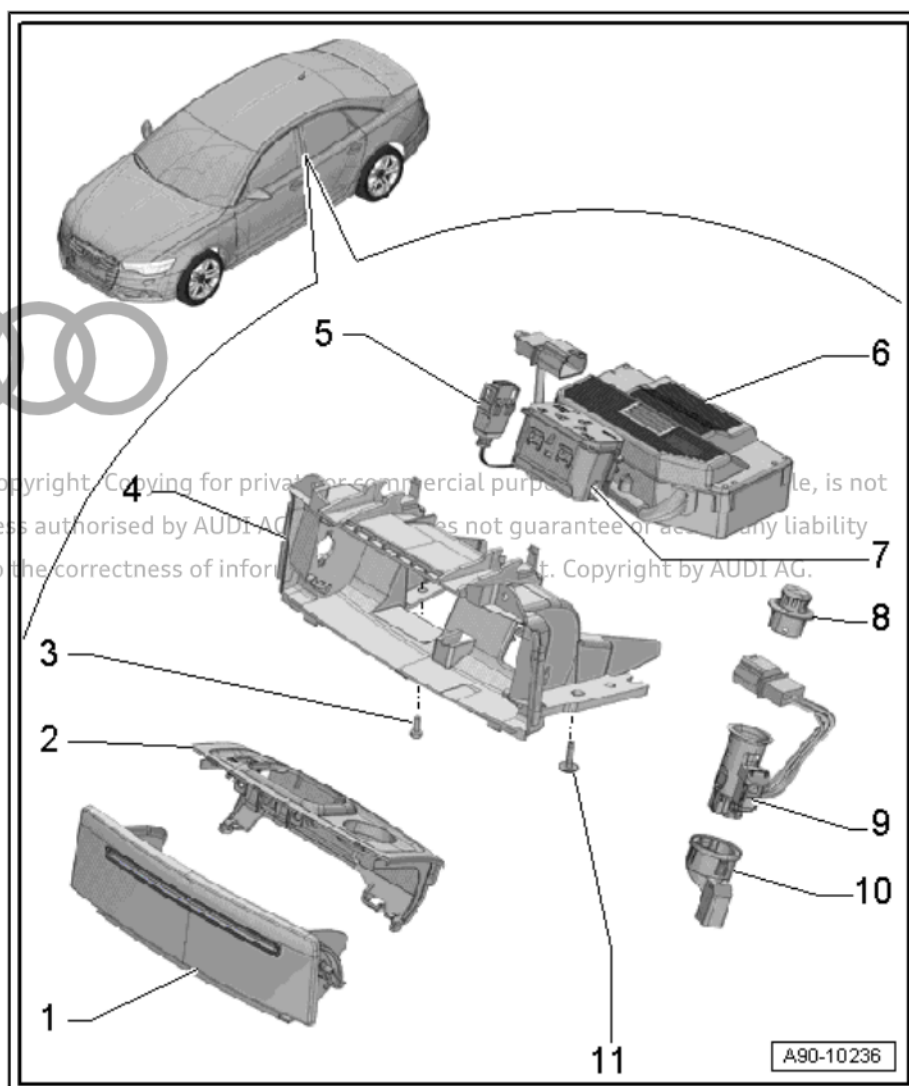
#### 8 - Cigarette lighter

#### 9 - Rear cigarette lighter - U9-

- ☐ Removing and installing  
⇒ [page 394](#)

#### 10 - Rear cigarette lighter illumination bulb - L32-

- ☐ For rear cigarette lighter - U9-
- ☐ Removing and installing ⇒ ["9.5 Removing and installing rear cigarette lighter U9 " , page 394](#)







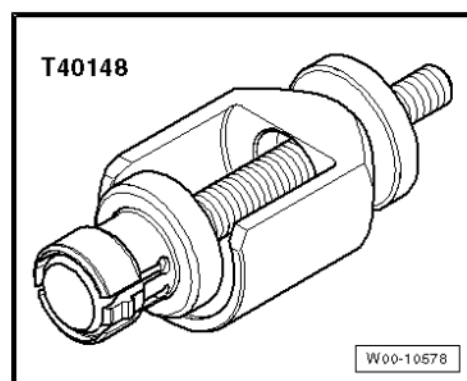
## 11 - Bolt

- 10x
- 1.4 Nm

## 9.2 Removing and installing cigarette lighter - U1-

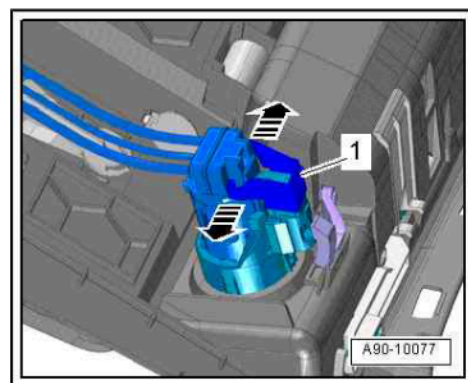
Special tools and workshop equipment required

- ◆ Release tool - T40148-

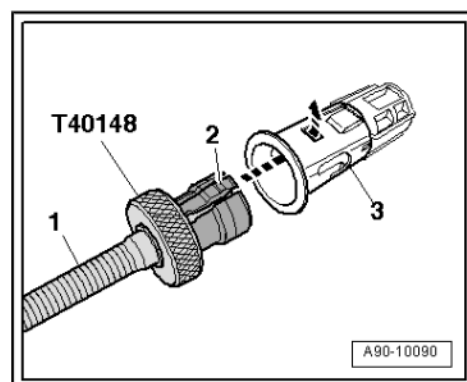


### Removing

- Remove ashtray (front) ⇒ General body repairs, interior; Rep. gr. 68 ; Centre console; Removing and installing ashtray (front) .
- Pry off cover -1- from top of cigarette lighter illumination bulb - L28- -arrows-.



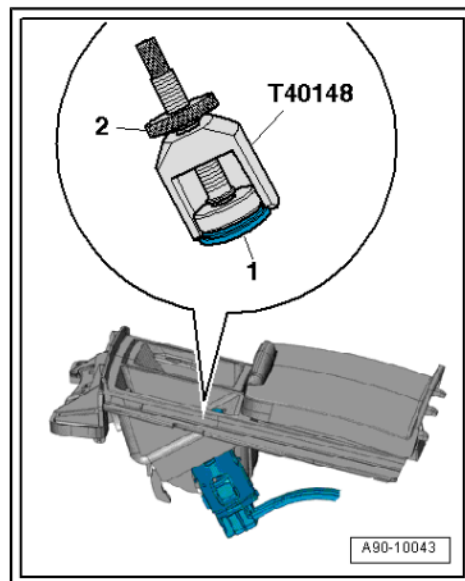
- Release tabs -2- on puller -T40148- must engage in recesses in cigarette lighter -3- -arrow-; for this purpose, push threaded rod -1- downwards as far as stop.



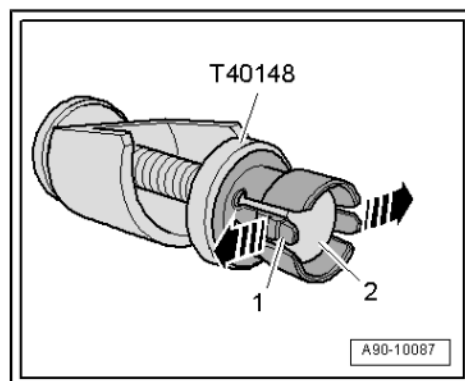
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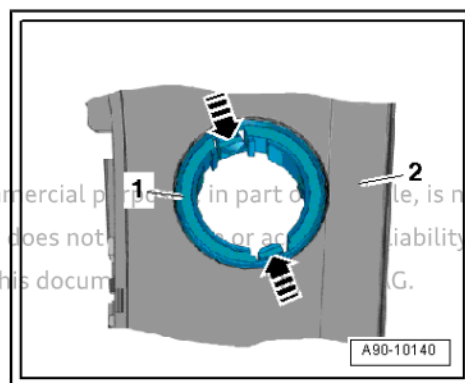
- Insert puller - T40148- into cigarette lighter -1- as far as stop.
- Turn knurled wheel -2- on puller - T40148- clockwise as far as stop.



- The piston -2- moves upwards and the release tabs -1- on puller - T40148- spread apart -arrows-.
- Use puller - T40148- to pull cigarette lighter out of illuminated ring with cigarette lighter illumination bulb - L28- .



- Release retaining clips -arrows-.
- Take cigarette lighter with illuminated ring -1- out of front ash-tray -2-.
- Guide out electrical wire through mounting.



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## Installing

Installation is carried out in reverse order; note the following:



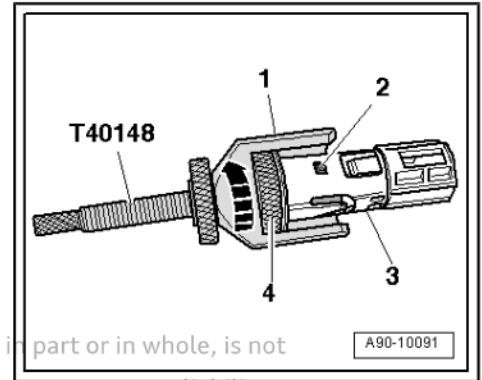
### Caution

#### *Risk of injury.*

- ◆ After detaching puller - T40148- check that retaining tabs for lighter are not bent.
- ◆ If retaining tabs are bent they must be bent back to prevent lighter from ejecting.

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- Detach support -1- from puller - T40148-
- Push piston downwards and hold in this position.
- Turn knurled wheel -4- on puller - T40148- anti-clockwise -arrow-; this will open release tabs -2- on cigarette lighter -3- and puller - T40148- can be removed.



## 9.3 Removing and installing socket illumination bulb - L42-

⇒ ["9.3.1 Removing and installing socket illumination bulb L42 , 12 V socket U5 ", page 387](#)

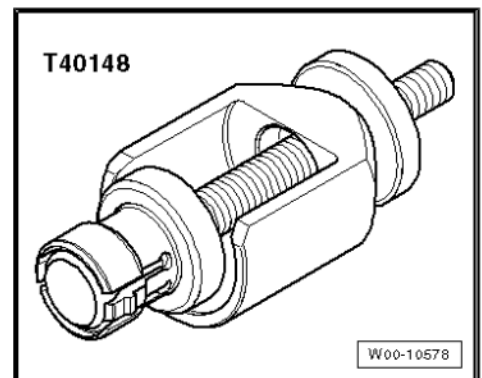
⇒ ["9.3.2 Removing and installing socket illumination bulb L42 , 12 V socket 2 U18 ", page 389](#)

⇒ ["9.3.3 Removing and installing socket illumination bulb L42 , 12 V socket 4 U20 ", page 391](#)

### 9.3.1 Removing and installing socket illumination bulb - L42- , 12 V socket - U5-

Special tools and workshop equipment required

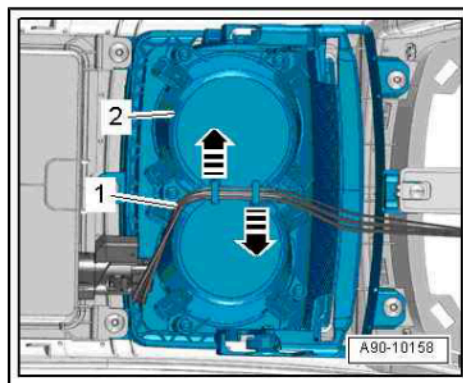
- ◆ Release tool - T40148-



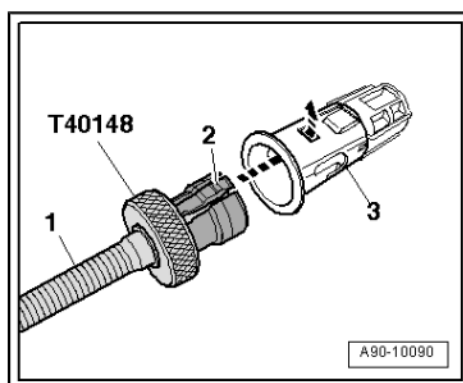


## Removing

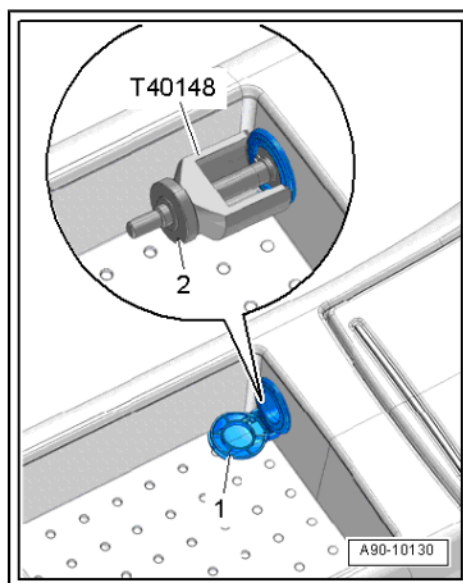
- Remove centre console storage compartment ⇒ General body repairs, interior; Rep. gr. 68 ; Centre console; Exploded view - centre console .
- Move clear electrical wire -1- at cup holder -2- -arrows-.



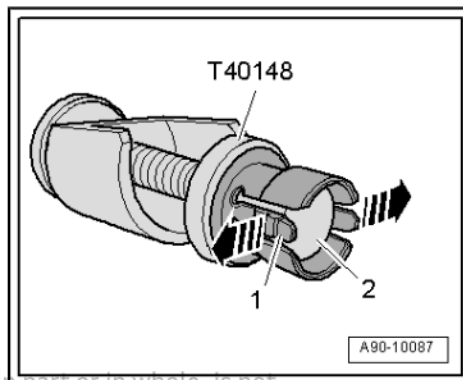
- Release tabs -2- on puller -T40148- must engage in recesses in 12 V socket -3- -arrow-; for this purpose, push threaded rod -1- downwards as far as stop.



- Open cover -1- of 12 V socket and hold in this position.
- Insert puller - T40148- into 12 V socket as far as stop.
- Turn knurled wheel -2- on puller - T40148- clockwise as far as stop.



- The piston -2- moves upwards and the release tabs -1- on puller - T40148- spread apart -arrows-.
- Use puller - T40148- to pull 12 V socket out of illuminated ring with socket illumination bulb - L42- .
- Unplug electrical connector.



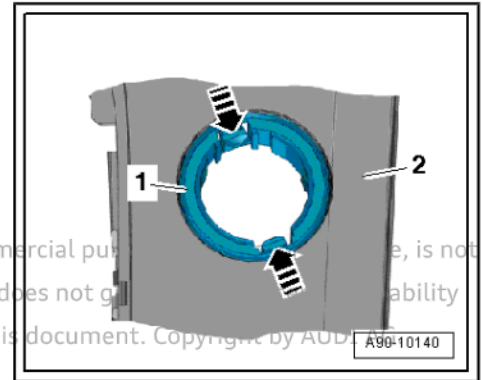
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- Release retaining clips -arrows-.
- Take illuminated ring -1- with socket illumination bulb - L42- out of storage compartment -2- in centre console.



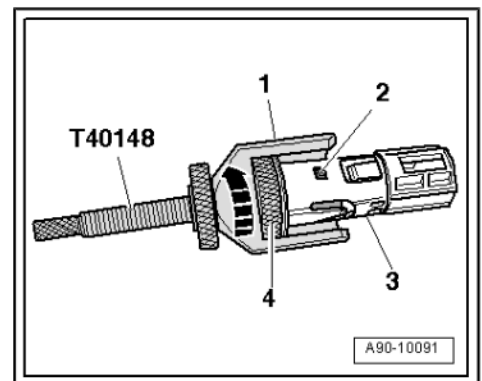
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### Installing

Installation is carried out in reverse order; note the following:

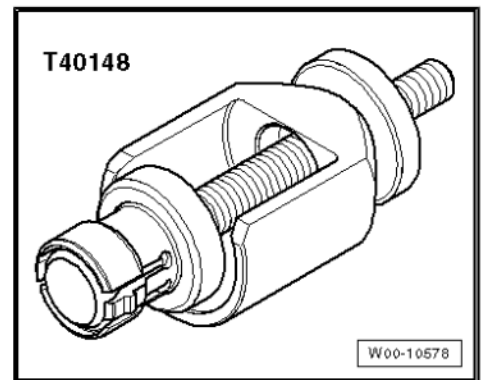
- Detach support -1- from puller - T40148- .
- Push piston downwards and hold in this position.
- Turn knurled wheel -4- on puller - T40148- anti-clockwise -arrow-; this will open release tabs -2- on 12 V socket -3- and puller - T40148- can be removed.



### 9.3.2 Removing and installing socket illumination bulb - L42- , 12 V socket 2 - U18-

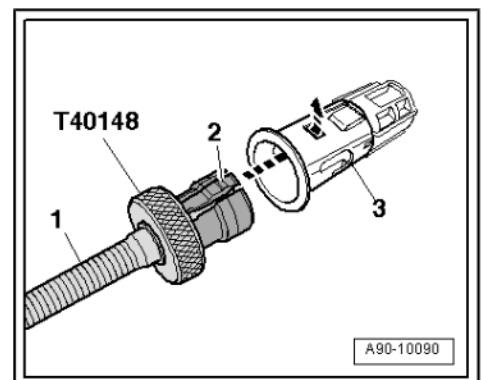
Special tools and workshop equipment required

- ◆ Release tool - T40148-



### Removing

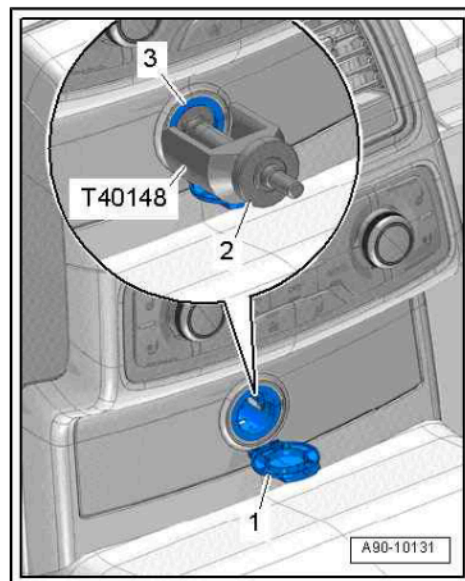
- Release tabs -2- on puller -T40148- must engage in recesses in 12 V socket -3- -arrow-; for this purpose, push threaded rod -1- downwards as far as stop.



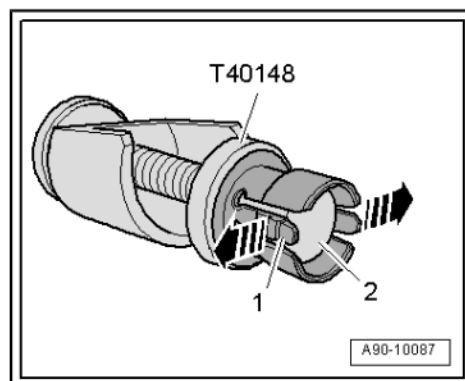




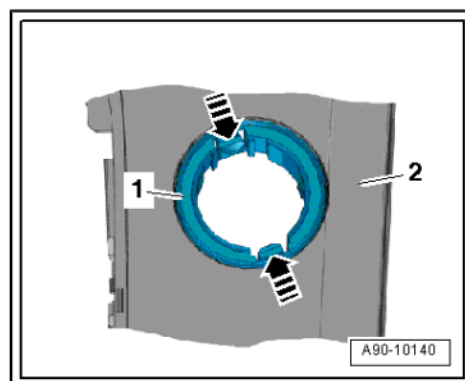
- Open cover -1- of 12 V socket and hold in this position.
- Insert puller - T40148- into 12 V socket -3- as far as stop.
- Turn knurled wheel -2- on puller - T40148- clockwise as far as stop.



- The piston -2- moves upwards and the release tabs -1- on puller - T40148- spread apart -arrows-.
- Use puller - T40148- to pull 12 V socket out of illuminated ring with rear cigarette lighter illumination bulb - L32- .



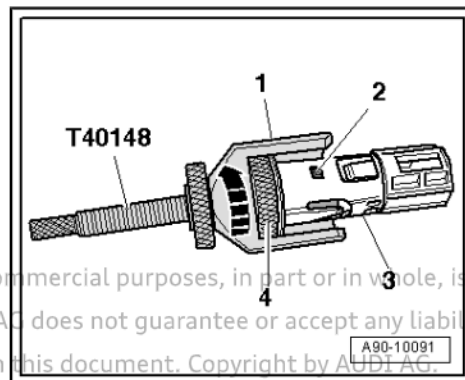
- Release retaining clips -arrows-.
- Take 12 V socket with illuminated ring -1- out of trim panel -2-.
- Guide out electrical wire through mounting -arrow- and unplug electrical wire.



### Installing

Installation is carried out in reverse order; note the following:

- Detach support -1- from puller - T40148- .
- Push piston downwards and hold in this position.
- Turn knurled wheel -4- on puller - T40148- anti-clockwise -arrow-; this will open release tabs -2- on 12 V socket -3- and puller - T40148- can be removed.



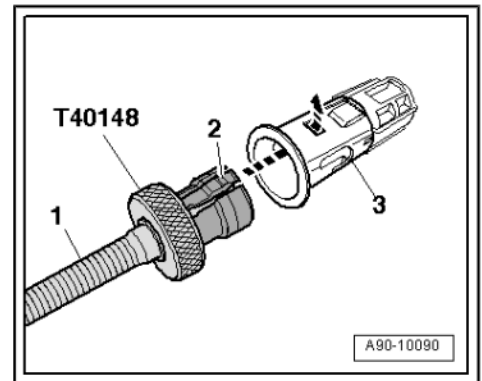
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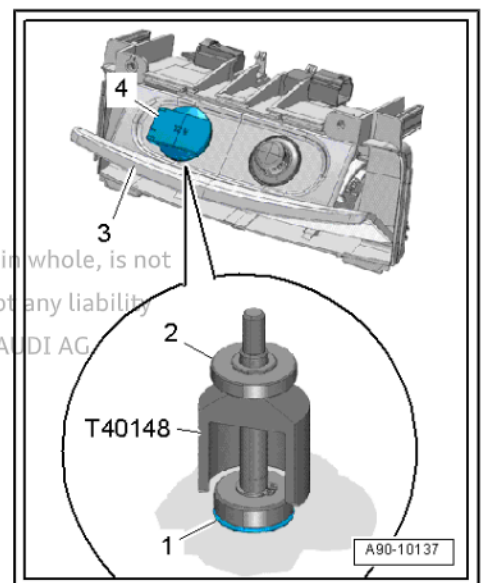
### 9.3.3 Removing and installing socket illumination bulb - L42- , 12 V socket 4 - U20-

#### Removing

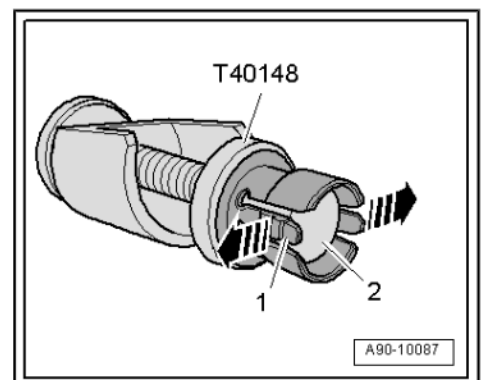
- Remove mounting for cigarette lighter and electric socket ⇒ General body repairs, interior; Rep. gr. 68 ; Centre console; Exploded view - centre console .
- Release tabs -2- on puller -T40148- must engage in recesses in 12 V socket -3- -arrow-; for this purpose, push threaded rod -1- downwards as far as stop.



- Open mounting -3- for cigarette lighter/12 V socket.
- Open cover -4- of 12 V socket and hold in this position.
- Insert puller - T40148- into 12 V socket -1- as far as stop.
- Turn knurled wheel -2- on puller - T40148- clockwise as far as stop.

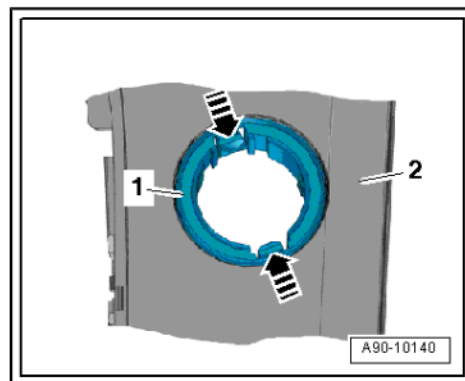


- The piston -2- moves upwards and the release tabs -1- on puller - T40148- spread apart -arrows-.
- Use puller - T40148- to pull 12 V socket out of illuminated ring with bulb.





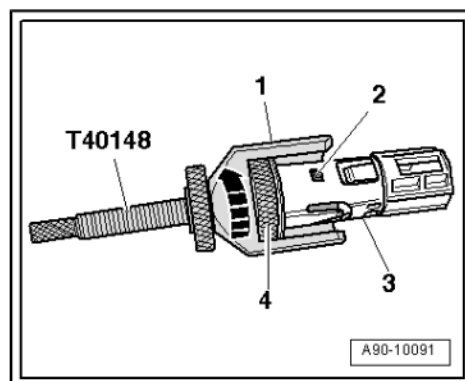
- Release retaining clips -arrows-.
- Take 12 V socket with illuminated ring -1- out of mounting -2-.
- Guide out electrical wire through mounting.



#### Installing

Installation is carried out in reverse order; note the following:

- Detach support -1- from puller - T40148- .
- Push piston downwards and hold in this position.
- Turn knurled wheel -4- on puller - T40148- anti-clockwise -arrow-; this will open release tabs -2- on 12 V socket -3- and puller - T40148- can be removed.



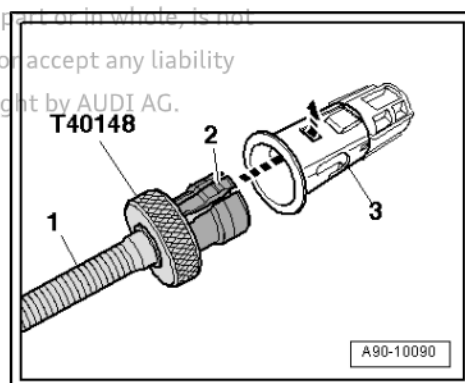
## 9.4 Removing and installing rear cigarette lighter illumination bulb - L32-

⇒ ["9.4.1 Removing and installing rear cigarette lighter illumination bulb L32 - rear cigarette lighter U9", page 392](#)

### 9.4.1 Removing and installing rear cigarette lighter illumination bulb - L32- - rear cigarette lighter - U9-

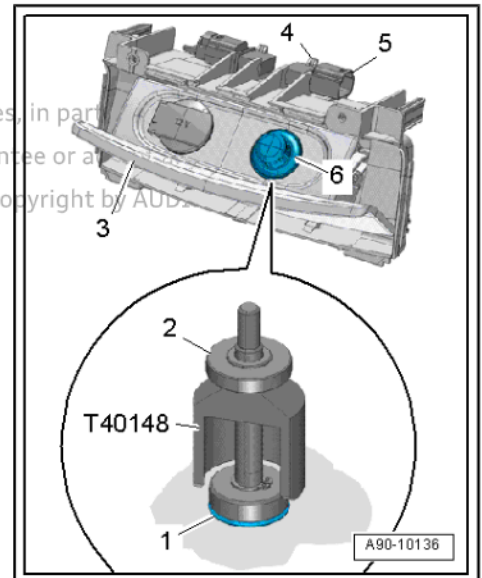
#### Removing

- Remove mounting for cigarette lighter and electric socket ⇒ General body repairs, interior; Rep. gr. 68; Centre console; Exploded view - centre console .
- Release tabs -2- on puller -T40148- must engage in recesses in cigarette lighter -3- -arrow-; for this purpose, push threaded rod -1- downwards as far as stop.

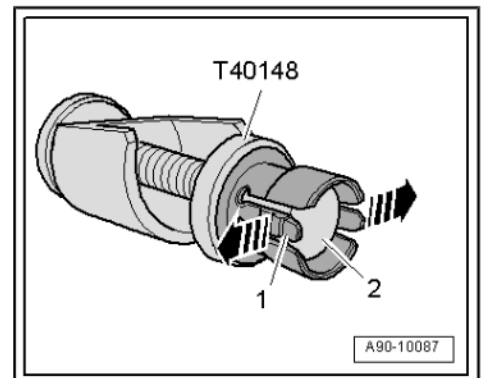




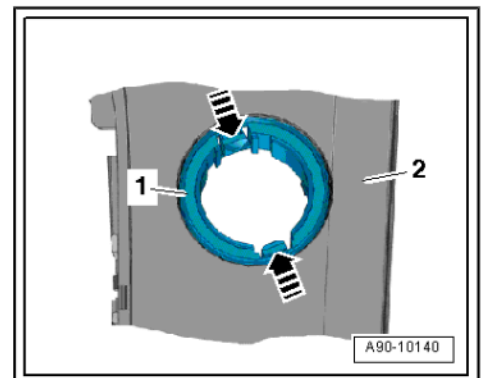
- Open mounting -3- for cigarette lighter/12 V socket.
- Release retaining tab -4- and move connector -5- clear on mounting.
- Pull out cigarette lighter -6-.
- Insert puller - T40148- into cigarette lighter -1- as far as stop.
- Turn knurled wheel -2- on puller - T40148- clockwise as far as stop.



- The piston -2- moves upwards and the release tabs -1- on puller - T40148- spread apart -arrows-.
- Use puller - T40148- to pull cigarette lighter out of illuminated ring with bulb.



- Release retaining clips -arrows-.
- Take cigarette lighter with illuminated ring -1- out of mounting -2-.
- Guide out electrical wire through mounting.





## Installing

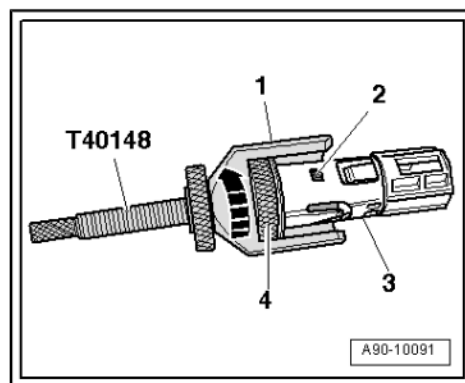
Installation is carried out in reverse order; note the following:



### Caution

#### *Risk of injury.*

- ◆ After detaching puller - T40148- check that retaining tabs for lighter are not bent.
- ◆ If retaining tabs are bent they must be bent back to prevent lighter from ejecting.



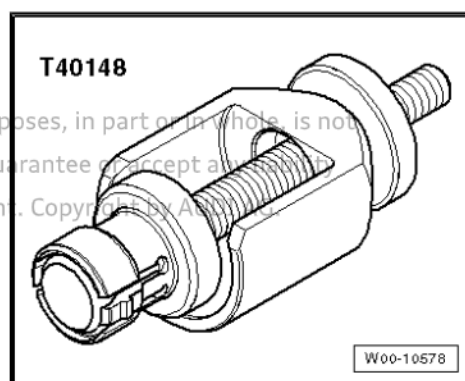
- Detach support -1- from puller - T40148- .
- Push piston downwards and hold in this position.
- Turn knurled wheel -4- on puller - T40148- anti-clockwise -arrow-; this will open release tabs -2- on cigarette lighter -3- and puller - T40148- can be removed.

## 9.5 Removing and installing rear cigarette lighter - U9-

Special tools and workshop equipment required

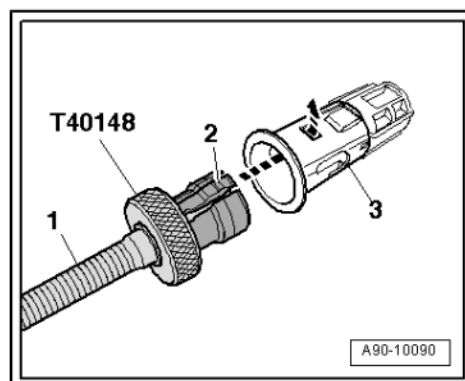
- ◆ Release tool - T40148-

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## Removing

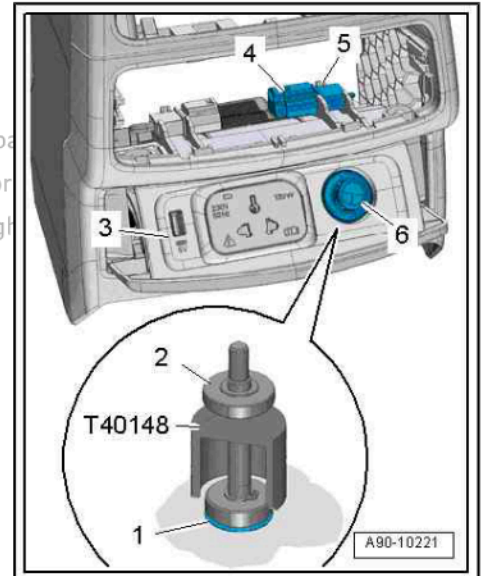
- Remove cover (rear) for centre console ⇒ General body repairs, interior; Rep. gr. 68 ; Centre console; Exploded view - centre console .
- Release tabs -2- on puller -T40148- must engage in recesses in cigarette lighter -3- -arrow-; for this purpose, push threaded rod -1- downwards as far as stop.



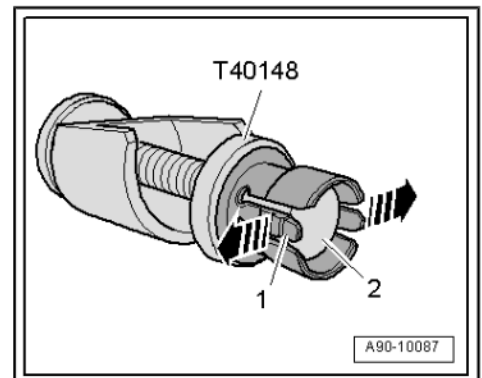




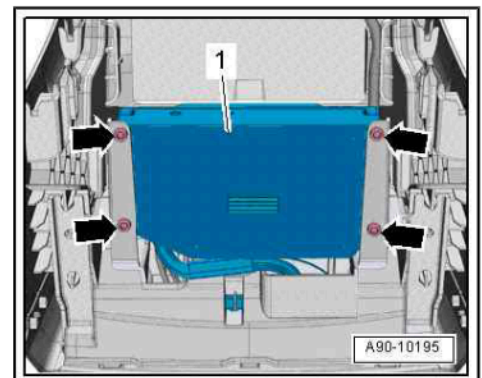
- Open mounting -3- for cigarette lighter/220 V socket.
- Release retaining tab -5- and move connector -4- clear on mounting.
- Pull out cigarette lighter -6-.
- Insert puller - T40148- into cigarette lighter -1- as far as stop.
- Turn knurled wheel -2- on puller - T40148- clockwise as far as stop.



- The piston -2- moves upwards and the release tabs -1- on puller - T40148- spread apart -arrows-.
- Use puller - T40148- to pull cigarette lighter out of illuminated ring with bulb.



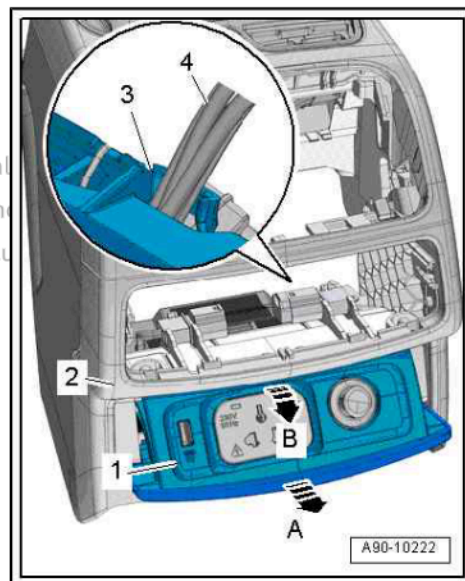
- Remove bolts -arrows-.
- Move AC/DC converter with socket, 12 V - 230 V - U13- item 1- to side.



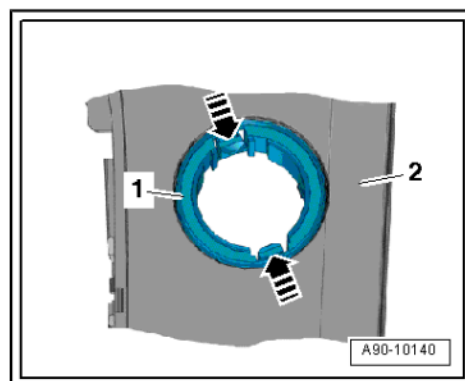


- Pull mounting -1- out of cover (rear) -2- -arrow B- and disengage at swivel bearing -arrow A-.
- Move wiring harness -4- clear at mounting -3-.

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- Release retaining clips -arrows-.
- Take cigarette lighter with illuminated ring -1- out of mounting -2-.
- Guide out electrical wire through mounting.



## Installing

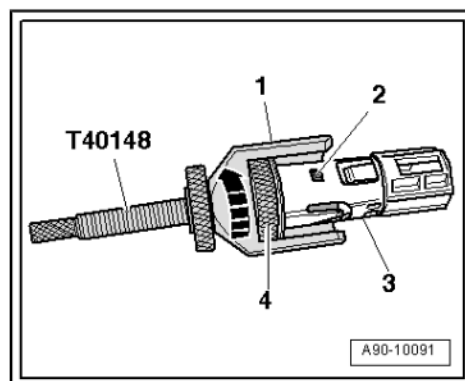
Installation is carried out in reverse order; note the following:



### Caution

#### *Risk of injury.*

- ◆ After detaching puller - T40148- check that retaining tabs for lighter are not bent.
- ◆ If retaining tabs are bent they must be bent back to prevent lighter from ejecting.



- Detach support -1- from puller - T40148- .
- Push piston downwards and hold in this position.
- Turn knurled wheel -4- on puller - T40148- anti-clockwise -arrow-; this will open release tabs -2- on cigarette lighter -3- and puller - T40148- can be removed.



## 9.6 Removing and installing DC/AC converter with socket, 12 V - 230 V - U13-

⇒ "9.6.1 Removing and installing AC/DC converter with socket, 12 V - 230 V U13 - country-specific version", page 397

⇒ "9.6.2 Removing and installing bracket for AC/DC converter with socket, 12 V - 230 V U13 - country-specific version", page 398

### 9.6.1 Removing and installing AC/DC converter with socket, 12 V - 230 V - U13- - country-specific version

#### Removing

– Remove cover (rear) for centre console ⇒ General body repairs, interior; Rep. gr. 68 ; Centre console; Exploded view - centre console

– Release retaining tabs -3, 6- and move connectors -4, 5- clear on mounting.

– Remove bolts -arrows-.

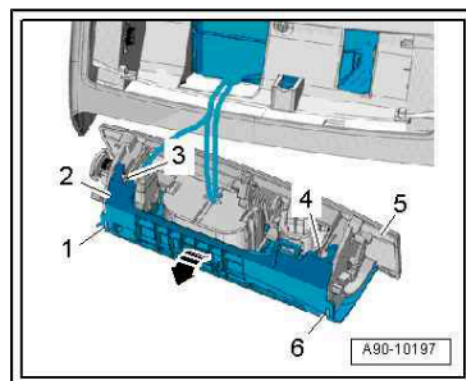
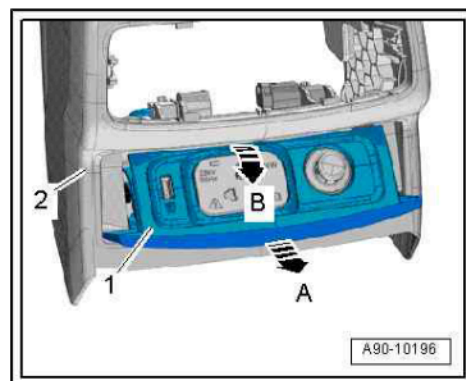
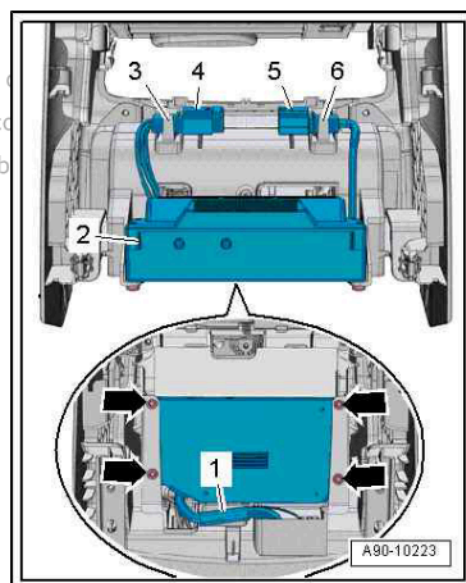
– Take AC/DC converter with socket, 12 V - 230 V - U13- -item 2- out of mounting.

– Move wiring harness -1- clear at mounting.

– Pull mounting -1- out of cover (rear) -2- -arrow B- and disengage at swivel bearing -arrow A-.

– Release retaining tabs -3, 4- and disengage mountings -1, 6-.

– Disengage cover -2- from mounting -5- -arrow-.





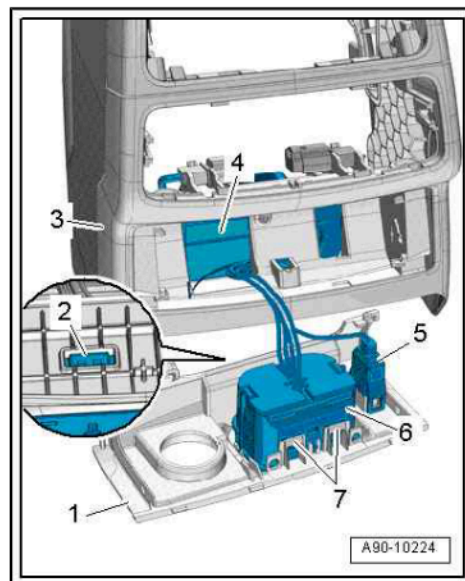
- Move USB charger -5- clear.
- Release retaining tabs -2, 7-.
- Remove 230 V socket -6- from cover -1-.
- Guide 230 V socket and USB charger through opening in cover (rear) -3-.
- Remove AC/DC converter -4- with 230 V socket and USB charger.

#### Installing

Installation is carried out in reverse sequence.

#### Tightening torques

- ◆ ⇒ ["9.1.2 Exploded view - cigarette lighter, 12 V socket and 230 V socket with USB charger", page 384](#)



### 9.6.2 Removing and installing bracket for AC/DC converter with socket, 12 V - 230 V - U13- - country-specific version

#### Removing

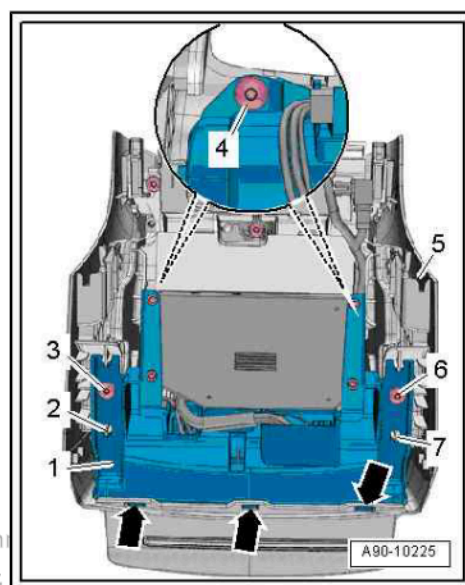
- Remove cover (rear) for centre console ⇒ General body repairs, interior; Rep. gr. 68 ; Centre console; Exploded view - centre console .
- Remove bolts -3, 4, 6-.
- Guide bracket -1- out of centring pins -2, 7-, disengage at cover (rear) -5- -arrows- and detach downwards.
- If bracket is renewed:
- ◆ Remove rear cigarette lighter ⇒ [page 394](#) .
- ◆ Remove DC/AC converter with socket, 12 V - 230 V ⇒ [page 397](#) .

#### Installing

Installation is carried out in reverse sequence.

#### Tightening torques

- ◆ ⇒ ["9.1.2 Exploded view - cigarette lighter, 12 V socket and 230 V socket with USB charger", page 384](#)







## 9.7 Removing and installing 12 V socket 3 - U19-

### Removing

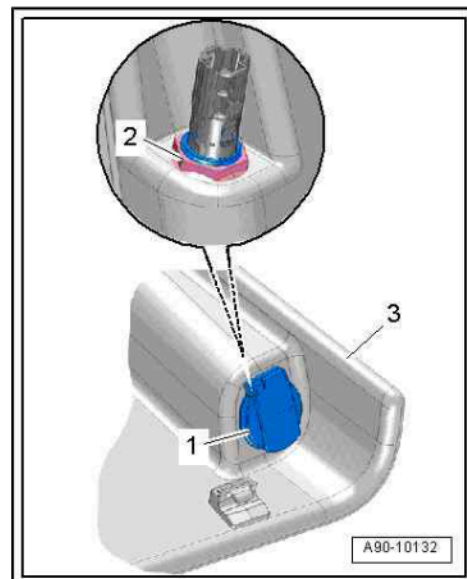
- Remove cover for luggage compartment side trim.
- Unscrew nut -2-.
- Remove 12 V socket -1- from luggage compartment side trim -3-.

### Installing

Installation is carried out in reverse sequence.

### Tightening torques

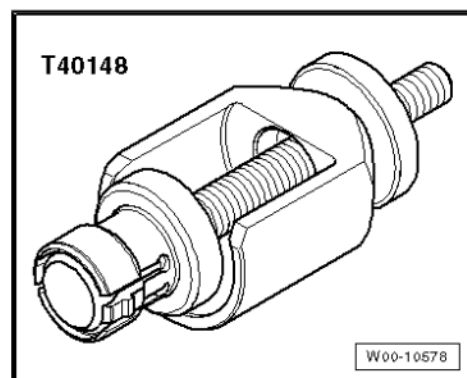
- ◆ ⇒ ["9.1.1 Exploded view - cigarette lighter, 12 V socket", page 382](#)



## 9.8 Renewing 12 V socket 3 - U19-

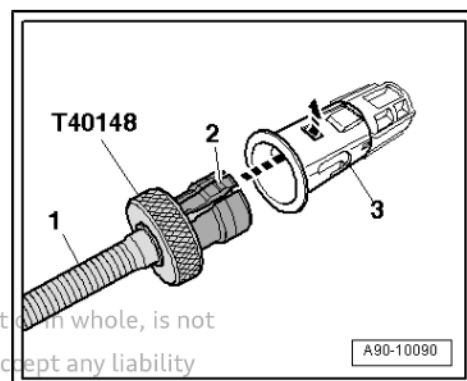
Special tools and workshop equipment required

- ◆ Release tool - T40148-



### Removing

- Release tabs -2- on puller -T40148- must engage in recesses in 12 V socket -3- -arrow-; for this purpose, push threaded rod -1- downwards as far as stop.



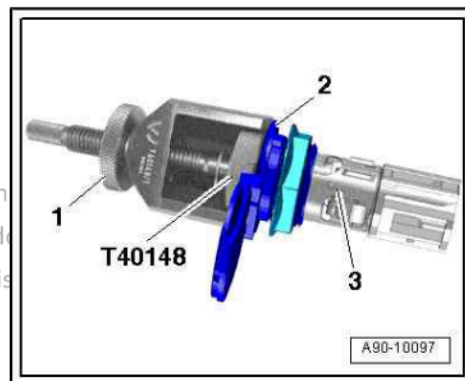
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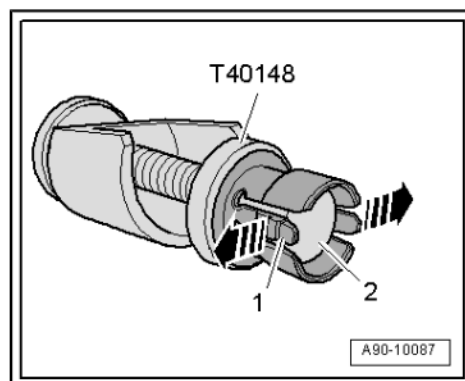


- Open cover of mounting -2- and hold in this position.
- Insert puller - T40148- into 12 V socket -3- as far as stop.
- Turn knurled wheel -1- on puller - T40148- clockwise as far as stop.

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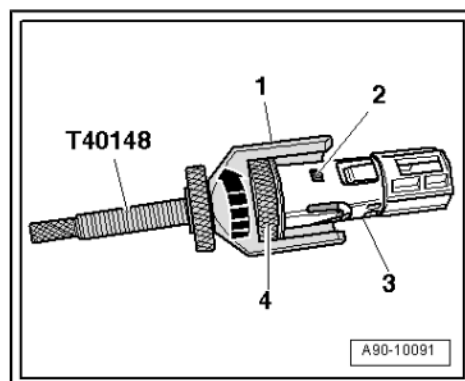
- The piston -2- moves upwards and the release tabs -1- on puller - T40148- spread apart -arrows-.
- Remove 12 V socket from luggage compartment side trim.
- Unplug electrical connector.



#### Installing

Installation is carried out in reverse order; note the following:

- Detach support -1- from puller - T40148- .
- Push piston downwards and hold in this position.
- Turn knurled wheel -4- on puller - T40148- anti-clockwise -arrow-; this will open release tabs -2- on 12 V socket -3- and puller - T40148- can be removed.





## 97 – Wiring

### 1 Relay carriers, fuse carriers, electronics boxes

⇒ [“1.1 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes”, page 401](#)

⇒ [“1.2 Removing and installing electronics box”, page 413](#)

⇒ [“1.3 Removing and installing relay and fuse holder in electronics box”, page 415](#)

⇒ [“1.3 Removing and installing relay and fuse holder in electronics box”, page 415](#)

⇒ [“1.4 Removing and installing suppression filter C24 ”, page 419](#)

⇒ [“1.5 Removing and installing wiring junction”, page 420](#)

⇒ [“1.6 Removing and installing fuse holders in dash panel”, page 423](#)

⇒ [“1.7 Removing and installing relay and fuse carrier behind dash panel \(driver side\)”, page 426](#)

⇒ [“1.8 Removing and installing relay and fuse holder in luggage compartment \(right-side\)”, page 430](#)

#### 1.1 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes

⇒ [“1.1.1 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes”, page 401](#)

⇒ [“1.1.2 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes, vehicles with 3.0 ltr. TDI engine, EA897 generation I”, page 403](#)

⇒ [“1.1.3 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes \(vehicles with high-voltage system\)”, page 405](#)

⇒ [“1.1.4 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes \(dash panel\)”, page 405](#)

⇒ [“1.1.5 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes in luggage compartment \(Saloon\)”, page 407](#)

⇒ [“1.1.6 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes in luggage compartment \(Avant\)”, page 409](#)

⇒ [“1.1.7 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes in luggage compartment \(vehicles with high-voltage system - hybrid\)”, page 411](#)

⇒ [“1.1.8 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes in luggage compartment \(vehicles with high-voltage system - e-tron\)”, page 412](#)

##### 1.1.1 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes

Illustration shows left-hand drive vehicle (symmetrically opposite for right-hand drive vehicles)

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1 - Nut

- ☐ 2x
- ☐ 3 Nm

2 - Bolt

- ☐ 4x
- ☐ 3 Nm

3 - Engine control unit

4 - Nut

- ☐ 2x
- ☐ 3 Nm

5 - Terminal 30 wiring junction  
- TV2-

- ☐ Removing and installing  
⇒ [page 420](#)

6 - Door disconnecter (front  
right)

- ☐ Overview of fitting loca-  
tions ⇒ [page 440](#)

7 - Door disconnecter (rear  
right)

- ☐ Overview of fitting loca-  
tions ⇒ [page 440](#)

8 - Main fuse holder

- ☐ In luggage compart-  
ment, at battery
- ☐ Removing and installing  
⇒ [page 432](#)

9 - Battery

10 - Door disconnecter (rear  
left)

- ☐ Overview of fitting locations ⇒ [page 440](#)

11 - Door disconnecter (front left)

- ☐ Overview of fitting locations ⇒ [page 440](#)

12 - Cover

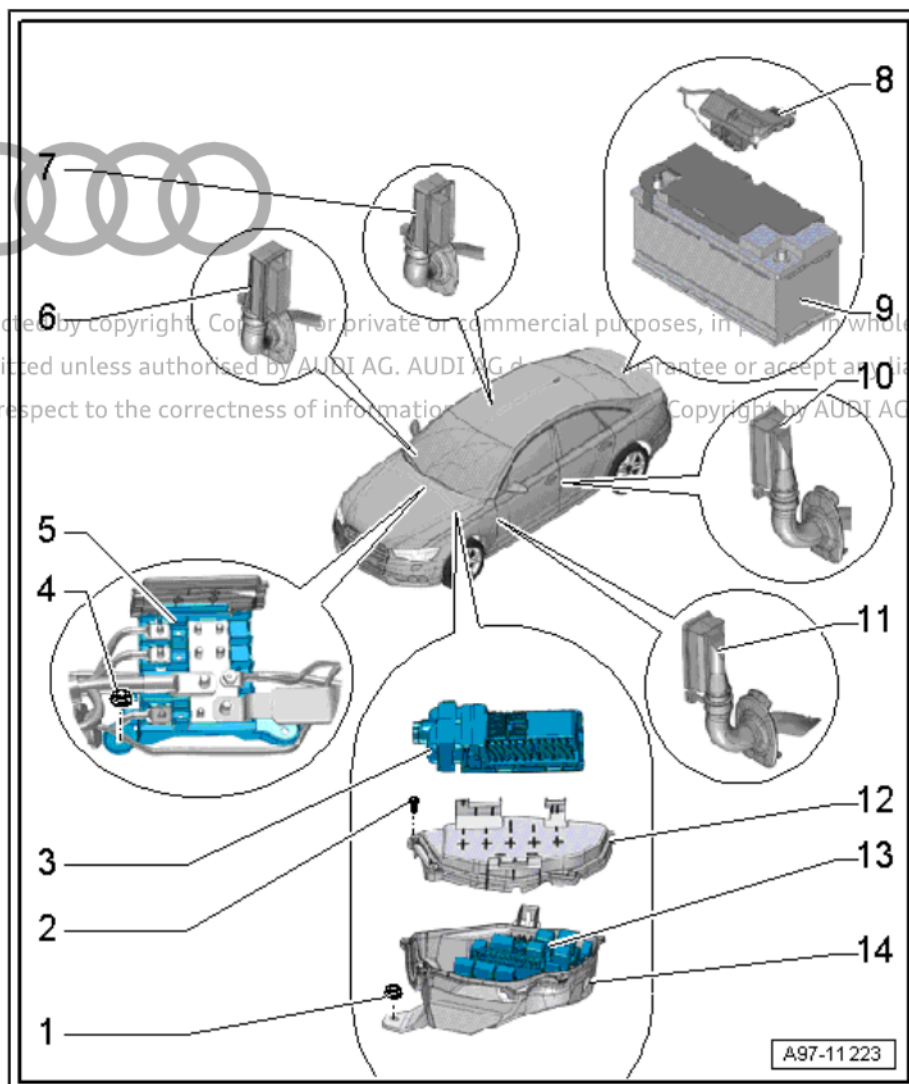
- ☐ For electronics box (plenum chamber)

13 - Relay carrier in electronics box (plenum chamber)

- ☐ Removing and installing ⇒ [page 415](#)
- ☐ With fuse holder A - SA- , removing and installing ⇒ [page 418](#)
- ☐ With suppression filter - C24- , removing and installing ⇒ [page 419](#)

14 - Electronics box (plenum chamber)

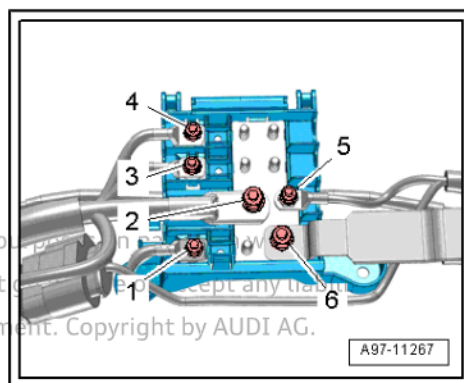
- ☐ Removing and installing ⇒ [page 413](#)





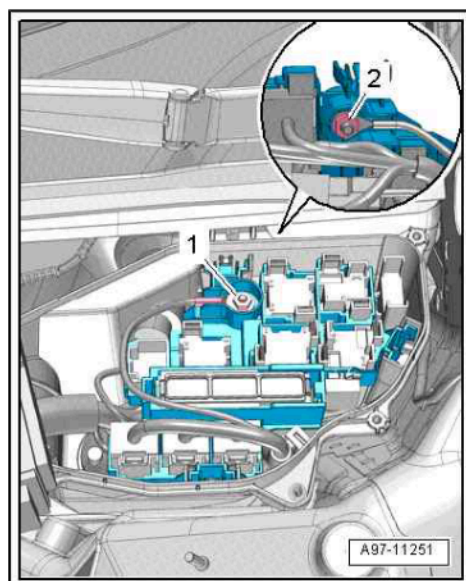
#### Wiring junction for terminal 30 - TV2- - tightening torques

- 1 - PTC wire, 18 Nm
- 2 - Jump start socket - U6- , 20 Nm
- 3 - Nut, 7.5 Nm
- 4 - Nut, 7.5 Nm
- 5 - Positive wire (electronics box), 7.5 Nm
- 6 - Battery wire, 18 Nm



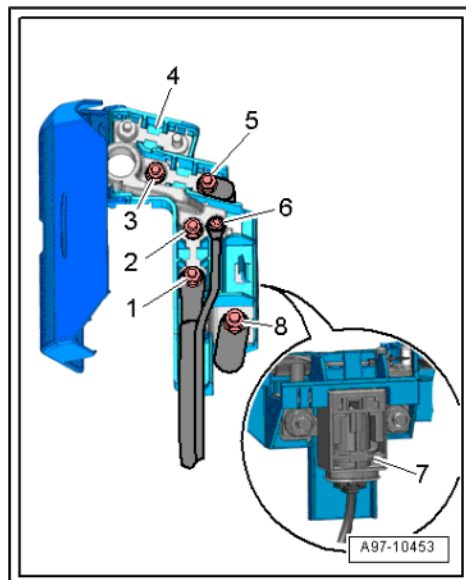
#### Relay carrier and fuse holder in electronics box (plenum chamber) - tightening torque

- 1 - Positive wire, 9 Nm
- 2 - Electrical wire on reverse side - 9 Nm



#### Main fuse holder - tightening torque

- 1 - Electrical wire, 7.5 Nm
- 2 - Nut, 9 Nm
- 3 - Nut, 9 Nm
- 4 - Main fuse holder in luggage compartment
- 5 - Positive cable to engine, 7.5 Nm
- 6 - Bolt, 3.5 Nm
- 7 - Battery isolation igniter - N253- ➔ General body repairs, interior; Rep. gr. 69 ; Battery isolation igniter; Removing and installing battery isolation igniter
- 8 - Electrical wire, 18 Nm



### 1.1.2 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes, vehicles with 3.0 ltr. TDI engine, EA897 generation I

Illustration shows left-hand drive vehicle (symmetrically opposite for right-hand drive vehicles)



1 - Nut

- ☐ 2x
- ☐ 3 Nm

2 - Terminal 30 wiring junction  
- TV2-

- ☐ Removing and installing  
⇒ [page 420](#)

3 - Main fuse holder

- ☐ In luggage compartment, at battery
- ☐ Removing and installing  
⇒ [page 432](#)

4 - Battery

5 - Cover

- ☐ For electronics box (plenum chamber)

6 - Bolt

- ☐ 4x
- ☐ 3 Nm

7 - Fuse holder A - SA-

- ☐ Removing and installing  
⇒ [page 417](#)

8 - Relay carrier and fuse holder in electronics box (plenum chamber)

- ☐ Removing and installing  
⇒ [page 417](#)
- ☐ With suppression filter - C24- , removing and installing  
⇒ [page 419](#)

9 - Bolt

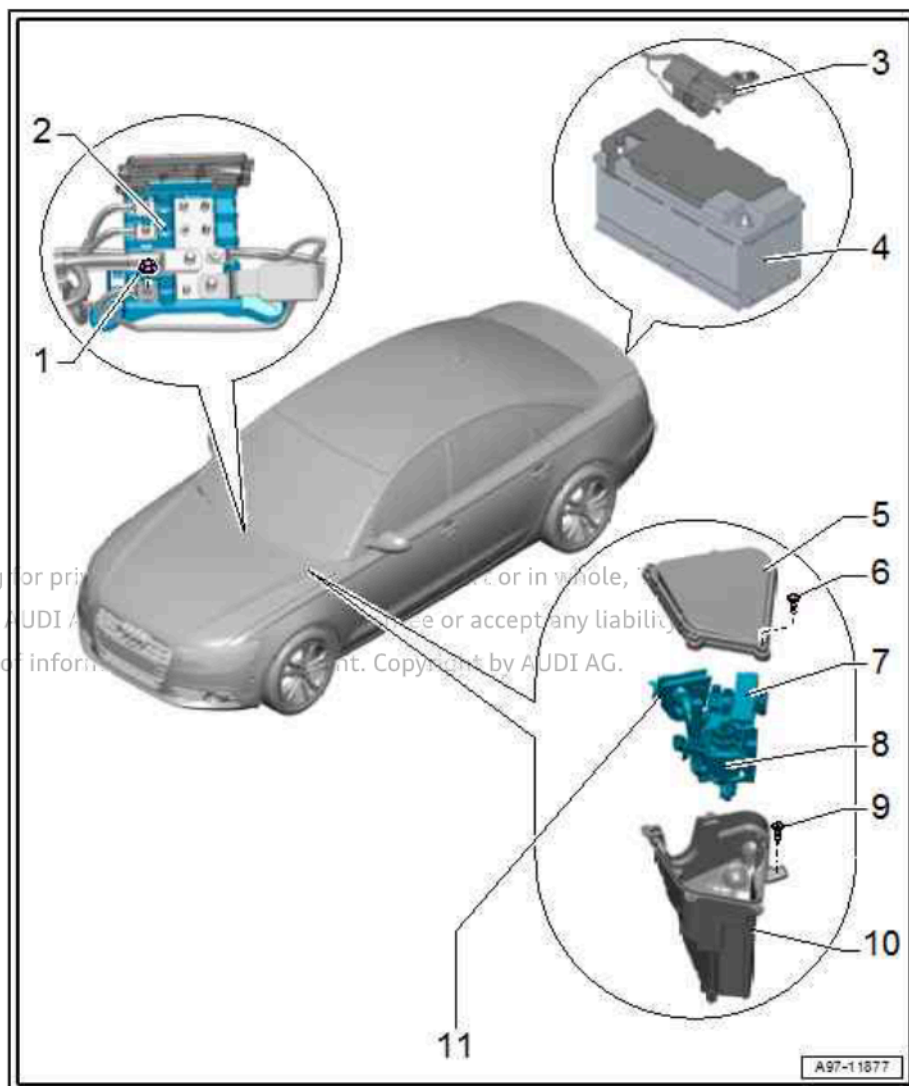
- ☐ 3 Nm

10 - Electronics box (plenum chamber)

- ☐ Removing and installing ⇒ [page 414](#)

11 - Grommet

- ☐ Ensure that item is seated correctly in electronics box

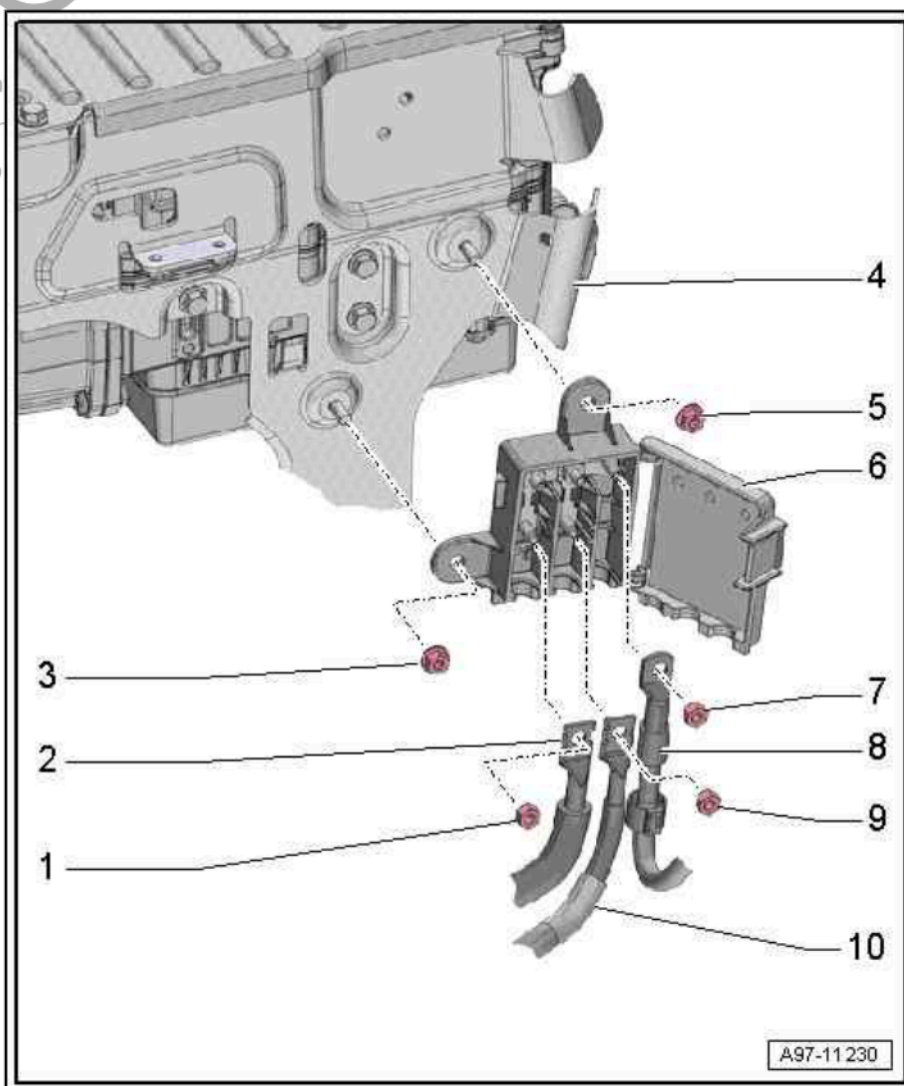






### 1.1.3 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes (vehicles with high-voltage system)

- 1 - Nut
  - ❑ 7.5 Nm
- 2 - Electrical wire
  - ❑ To power and control electronics for electric drive - JX1-
- 3 - Nut
  - ❑ 4 Nm
- 4 - Mounting
  - ❑ For power and control electronics for electric drive - JX1-
- 5 - Nut
  - ❑ 4 Nm
- 6 - Terminal 30 wiring junction 2 - TV22-
  - ❑ Removing and installing  
⇒ [page 420](#)
- 7 - Nut
  - ❑ 7.5 Nm
- 8 - Electrical wire
  - ❑ To terminal 30 wiring junction - TV2-
- 9 - Nut
  - ❑ 7.5 Nm
- 10 - Electrical wire
  - ❑ To power steering control unit - J500-



### 1.1.4 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes (dash panel)

Illustration shows left-hand drive vehicle (symmetrically opposite for right-hand drive vehicles)



#### 1 - Mounting

- ❑ For control unit for headlight range control - J431-
- ❑ Removing and installing  
⇒ ["1.7.3 Removing and installing mounting for relay carrier underneath dash panel \(driver's side\), onboard supply control unit J519", page 429](#)

#### 2 - Headlight range control unit - J431-

- ❑ Exploded view  
⇒ [page 292](#)

#### 3 - Onboard supply control unit - J519-

- ❑ Removing and installing  
⇒ [page 436](#)

#### 4 - Mounting

- ❑ For onboard supply control unit - J519- and relay carrier
- ❑ Removing and installing  
⇒ [page 429](#)

#### 5 - Nut

- ❑ 2x
- ❑ 3 Nm

#### 6 - Fuse holder C - SC- in dash panel (passenger side)

- ❑ Removing and installing  
⇒ [page 425](#)
- ❑ Fuse carrier, removing and installing ⇒ [page 425](#)

#### 7 - Central tube (right-side)

#### 8 - Connector point at A-pillar (right-side)

- ❑ Overview of fitting locations ⇒ [page 440](#)

#### 9 - Connector point at A-pillar (left-side)

- ❑ With 46-pin connector - T46a-
- ❑ Overview of fitting locations ⇒ [page 440](#)

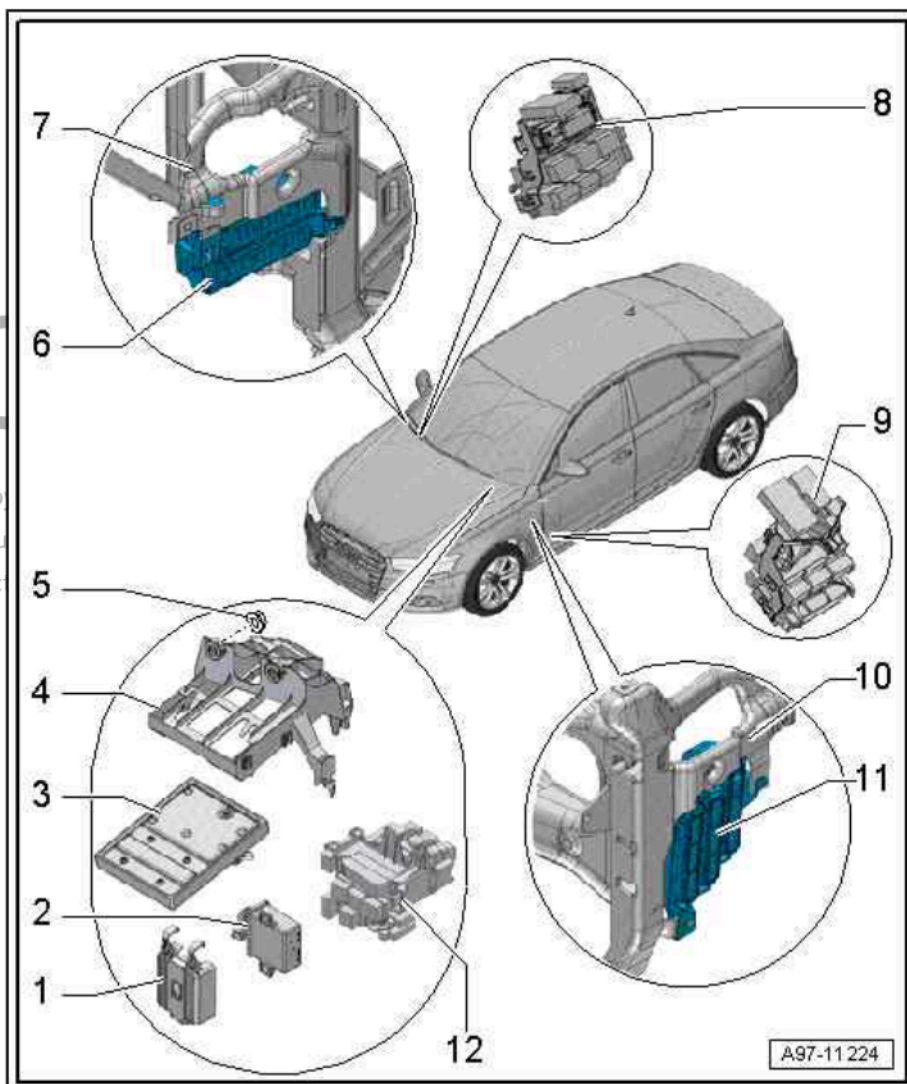
#### 10 - Central tube (left-side)

#### 11 - Fuse holder B - SB- in dash panel (driver's side)

- ❑ Removing and installing ⇒ [page 423](#)
- ❑ Fuse carrier, removing and installing ⇒ [page 424](#)

#### 12 - Relay carrier below dash panel (driver's side)

- ❑ Removing and installing ⇒ [page 426](#)



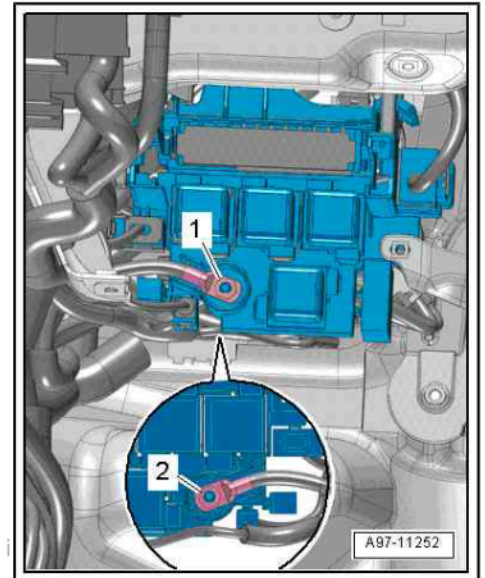


Relay carrier underneath dash panel (driver's side) with screw connection - tightening torques

- 1 - Electrical wire, 9 Nm
- 2 - Electrical wire on reverse side - 9 Nm



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### 1.1.5 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes in luggage compartment (Saloon)

1 - Relay and fuse holder F - SF-

- ☐ Removing and installing  
⇒ [page 430](#)
- ☐ With fuse holder F - SF-,  
removing and installing  
⇒ [page 431](#)
- ☐ With 46-pin connector -  
T46b-, overview of fitting  
locations  
⇒ [page 440](#)

2 - Nut

- ☐ 3 Nm

3 - Mounting frame

- ☐ For control unit

4 - Nut

- ☐ 3 Nm

5 - Convenience system central control unit - J393-

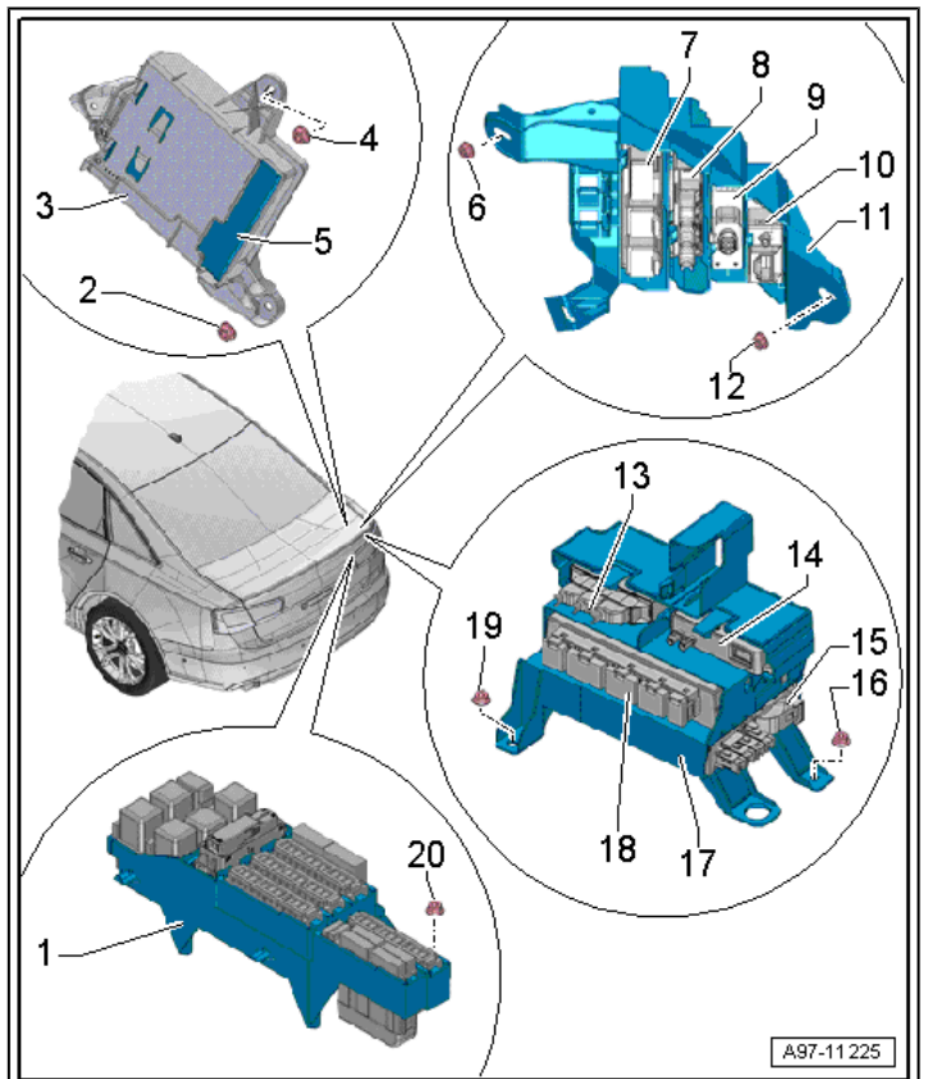
- ☐ Removing and installing  
⇒ General body repairs,  
exterior; Rep. gr. 57 ;  
Central locking system;  
Removing and installing  
convenience system  
central control unit -  
J393-

6 - Nut

- ☐ 3 Nm

7 - Trailer detector control unit - J345-

- ☐ Exploded view  
⇒ [page 380](#)





8 - Interface control unit for vehicle location system - J843-

- ☐ Removing and installing ⇒ General body repairs, exterior; Rep. gr. 57 ; Central locking system; Overview of fitting locations - central locking system

9 - Not used

10 - Remote control receiver for auxiliary heater - R64-

- ☐ Removing and installing ⇒ Auxiliary heater, supplementary heater; Rep. gr. 82 ; Further control components

11 - Retaining frame (top)

- ☐ For control units

12 - Nut

- ☐ 3 Nm

13 - Parking aid control unit - J446- / park assist steering control unit - J791-

- ☐ Exploded view ⇒ [page 283](#)

14 - Aerial amplifier for mobile telephone - R86-

- ☐ Removing and installing ⇒ Communication; Rep. gr. 91 ; Telephone system; Removing and installing aerial amplifier for mobile telephone - R86-

15 - Reversing camera system control unit - J772-

- ☐ Removing and installing ⇒ Communication; Rep. gr. 91 ; Reversing camera system; Removing and installing reversing camera system control unit - J772-

16 - Nut

- ☐ 3 Nm

17 - Retaining frame (bottom)

- ☐ For control units

18 - Adaptive suspension control unit - J197-

- ☐ Removing and installing ⇒ Running gear, axles, steering; Rep. gr. 43 ; Air suspension; Removing and installing adaptive suspension control unit - J197-

19 - Nut

- ☐ 3 Nm

20 - Nut

- ☐ 3 Nm

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## 1.1.6 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes in luggage compartment (Avant)

### 1 - Relay and fuse holder F - SF-

- ❑ Removing and installing  
⇒ [page 430](#)
- ❑ With fuse holder F - SF-,  
removing and installing  
⇒ [page 431](#)
- ❑ With 46-pin connector -  
T46b-, overview of fitting  
locations  
⇒ [page 440](#)

### 2 - Bracket

- ❑ For release lever for  
backrest remote release  
mechanism

### 3 - Bolt

- ❑ Tightening torque ⇒  
General body repairs,  
interior; Rep. gr. 72 ;  
Rear seats; Exploded  
view - locking mecha-  
nism

### 4 - Convenience system cen- tral control unit - J393-

- ❑ Removing and installing  
⇒ General body repairs,  
exterior; Rep. gr. 57 ;  
Central locking system;  
Removing and installing  
convenience system  
central control unit -  
J393-

### 5 - Mounting frame

- ❑ For control unit

### 6 - Bolt

- ❑ Tightening torque ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Exploded view - locking mechanism

### 7 - Nut

- ❑ 3 Nm

### 8 - Trailer detector control unit - J345-

- ❑ Exploded view ⇒ [page 380](#)

### 9 - Interface control unit for vehicle location system - J843-

- ❑ Removing and installing ⇒ General body repairs, exterior; Rep. gr. 57 ; Central locking system; Overview of fitting locations - central locking system

### 10 - Remote control receiver for auxiliary heater - R64-

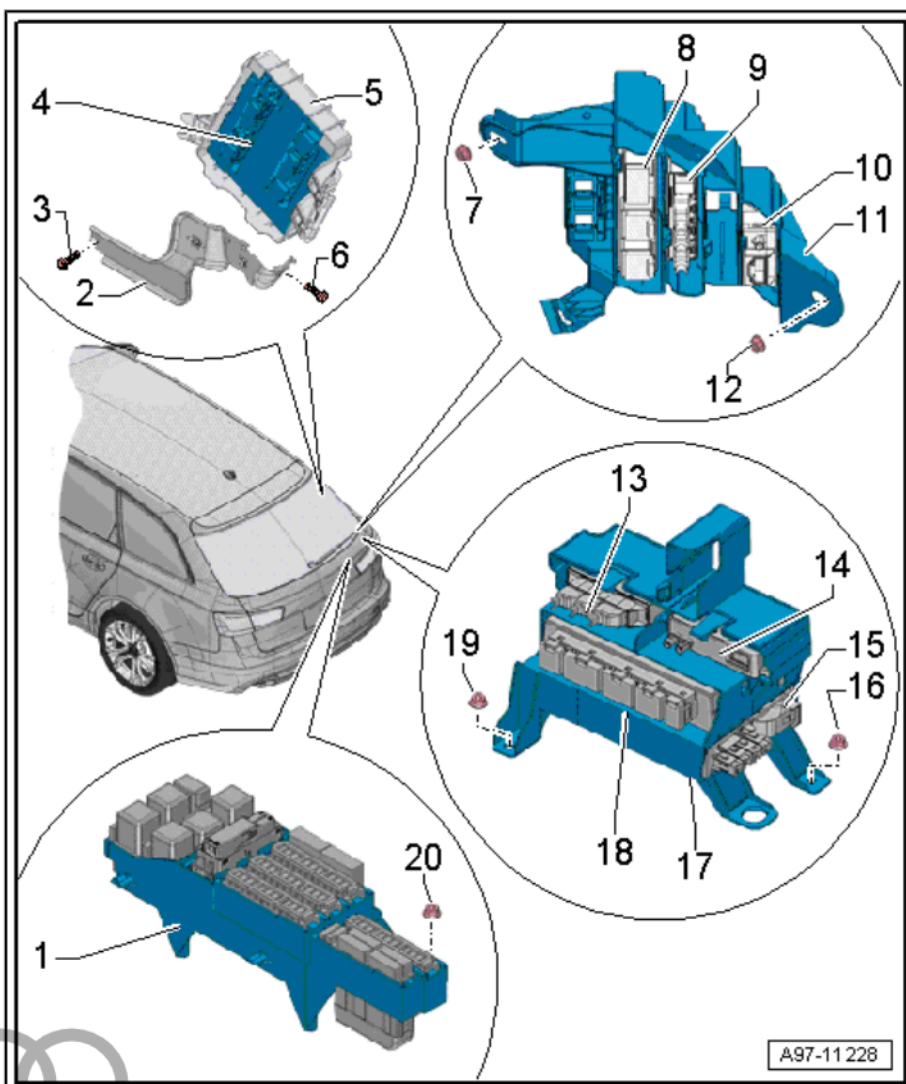
- ❑ Removing and installing ⇒ Auxiliary heater, supplementary heater; Rep. gr. 82 ; Further control components

### 11 - Retaining frame (top)

- ❑ For control units

### 12 - Nut

- ❑ 3 Nm



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13 - Parking aid control unit - J446- / park assist steering control unit - J791-

- ☐ Exploded view ➔ [page 283](#)

14 - Aerial amplifier for mobile telephone - R86-

- ☐ Removing and installing ➔ Communication; Rep. gr. 91 ; Telephone system; Removing and installing aerial amplifier for mobile telephone - R86-

15 - Reversing camera system control unit - J772-

- ☐ Removing and installing ➔ Communication; Rep. gr. 91 ; Reversing camera system; Removing and installing reversing camera system control unit - J772-

16 - Nut

- ☐ 3 Nm

17 - Retaining frame (bottom)

- ☐ For control units

18 - Adaptive suspension control unit - J197-

- ☐ Removing and installing ➔ Running gear, axles, steering; Rep. gr. 43 ; Air suspension; Removing and installing adaptive suspension control unit - J197-

19 - Nut

- ☐ 3 Nm

20 - Nut

- ☐ 3 Nm

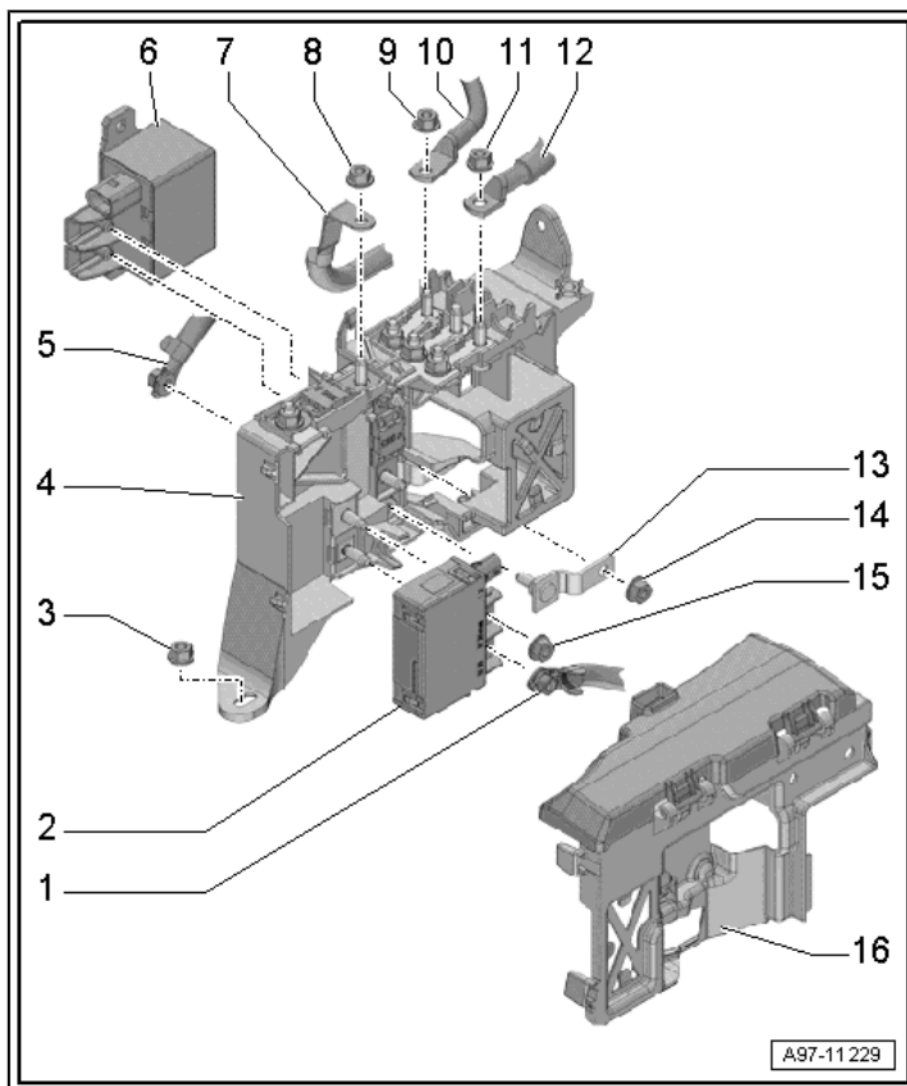


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## 1.1.7 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes in luggage compartment (vehicles with high-voltage system - hybrid)

- 1 - Positive wire
  - ❑ To main fuse holder on battery - A-
  - ❑ 9 Nm
- 2 - Vehicle starter battery switch-over relay - J580-
  - ❑ Removing and installing  
⇒ [page 433](#)
- 3 - Nut
  - ❑ 2x
  - ❑ 3 Nm
- 4 - Wiring junction - TV1-
  - ❑ Removing and installing  
⇒ [page 421](#)
- 5 - Positive wire
  - ❑ To second battery - A1-
  - ❑ 9 Nm
- 6 - Battery isolation relay - J7-
  - ❑ Removing and installing  
⇒ [page 434](#)
- 7 - Electrical wire
  - ❑ To terminal 30 wiring junction - TV2-
- 8 - Nut
  - ❑ 9Nm
- 9 - Nut
  - ❑ 7.5 Nm
- 10 - Earth cable
- 11 - Nut
  - ❑ 7.5 Nm
- 12 - Positive wire
  - ❑ To relay and fuse holders, control units (right-side)
- 13 - Current bar
- 14 - Nut
  - ❑ 9 Nm
- 15 - Nut
  - ❑ 9 Nm
- 16 - Cover
  - ❑ For wiring junction - TV1-



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### 1.1.8 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes in luggage compartment (vehicles with high-voltage system - e-tron)

1 - Body

2 - Bolt

- 3.5 Nm

3 - Positive wire

- To second battery - A1-
- 4.5 Nm

4 - Battery isolation relay - J7-

- Removing and installing  
⇒ [page 434](#)

5 - Wiring junction - TV1-

- Removing and installing  
⇒ [page 422](#)

6 - Electrical wire

- To terminal 30 wiring  
junction - TV2-

7 - Nut

- 7.5 Nm

8 - Electrical wire

- Allocation ⇒ Current  
flow diagrams, Electrical  
fault finding and Fitting  
locations
- Nut: 7.5 Nm

9 - Electrical wire

- Allocation ⇒ Current  
flow diagrams, Electrical  
fault finding and Fitting  
locations
- Nut: 7.5 Nm

10 - Body

11 - Bracket

- For wiring junction - TV1-

12 - Nut

- 2x
- 3.5 Nm

13 - Nut

- 3.5 Nm

14 - Nut

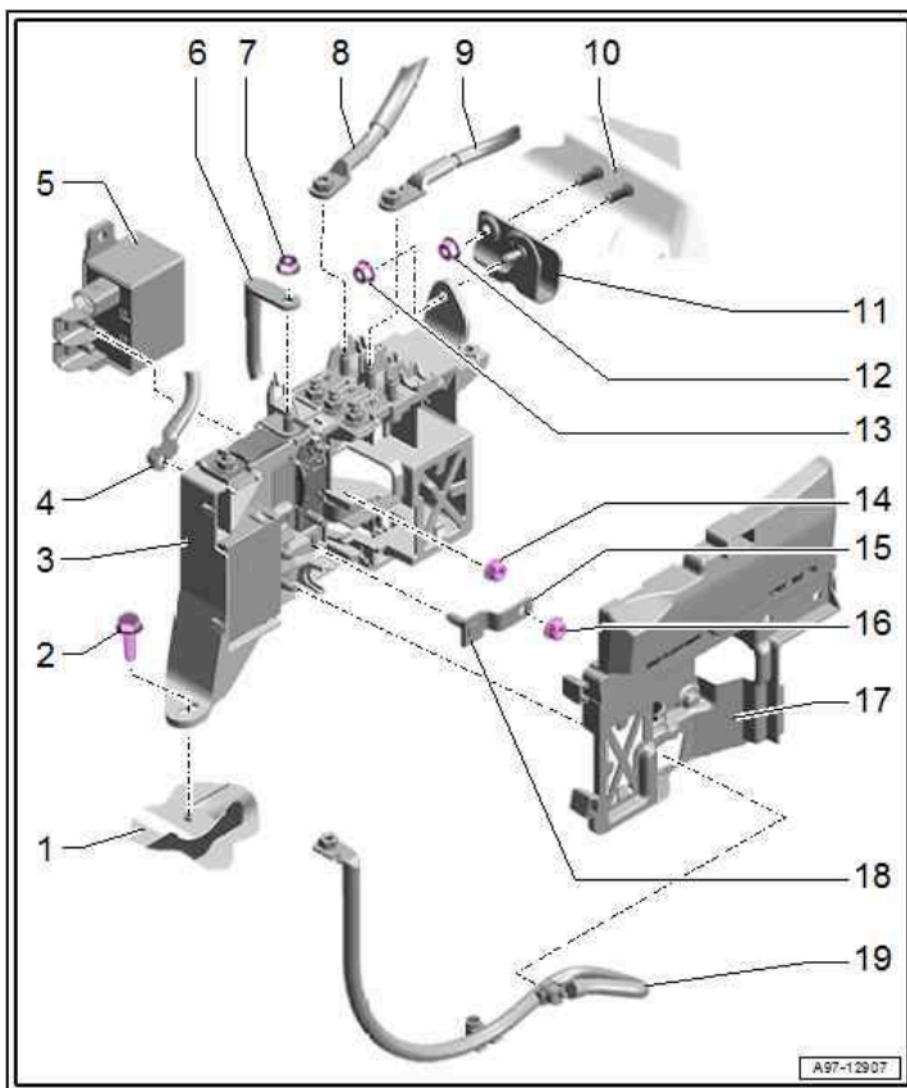
- 9 Nm

15 - Cover

- For wiring junction - TV1-

16 - Nut

- 9 Nm



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17 - Current bar

18 - Positive wire

- ☐ To main fuse holder on battery - A-
- ☐ Nut: 7.5 Nm

## 1.2 Removing and installing electronics box

⇒ "1.2.1 Removing and installing electronics box", page 413

⇒ "1.2.2 Removing and installing electronics box - vehicles with 3.0 ltr. TDI engine (EA897 generation I)", page 414

### 1.2.1 Removing and installing electronics box

#### Removing

- Disconnect earth cable from battery with ignition switched off ⇒ [page 12](#).
- Remove filler neck for washer fluid reservoir ⇒ [page 112](#).
- Release fastener -arrow-, detach engine control unit -1- and move to one side with wiring attached.

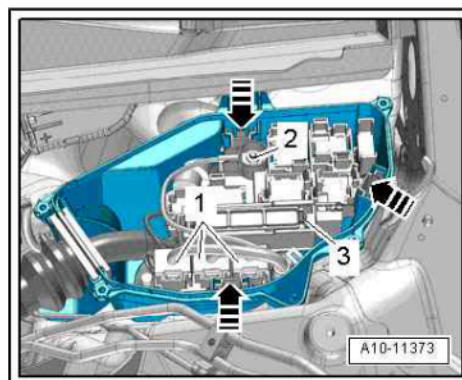
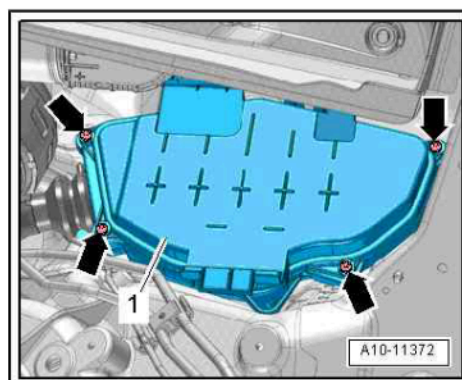
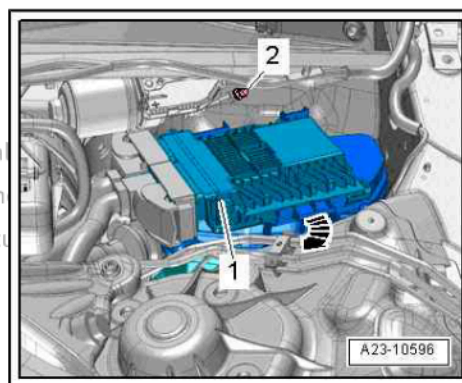


Note

*Disregard -item 2-.*

- Remove bolts -arrows- and detach cover -1- for electronics box (plenum chamber).

- Unplug electrical connectors -1- and remove nut -2- for electrical wiring.
- Release fasteners -arrows-, detach relay carrier with fuse holder -3- and place to one side.







- Remove nuts -1, 4- and disengage electronics box (plenum chamber) -5- from studs.
- Lift out electronics box (plenum chamber); to do so, push out rubber grommet -2- from inside to outside and guide out wiring harness -3-.

#### Installing

Installation is carried out in reverse order; note the following:

- Install relay and fuse holder ⇒ [page 415](#) .

#### Tightening torques

- ♦ ⇒ ["1.1.1 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes", page 401](#)

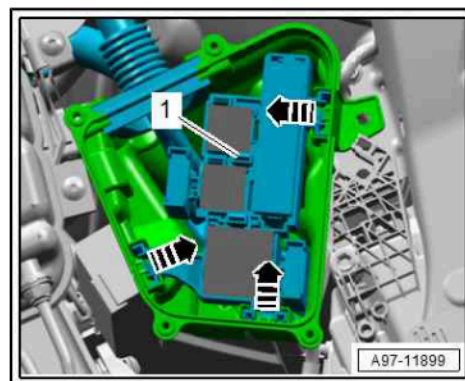
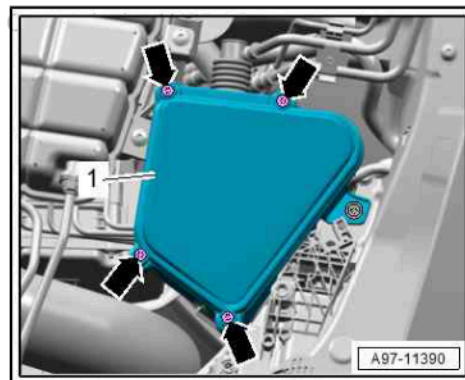
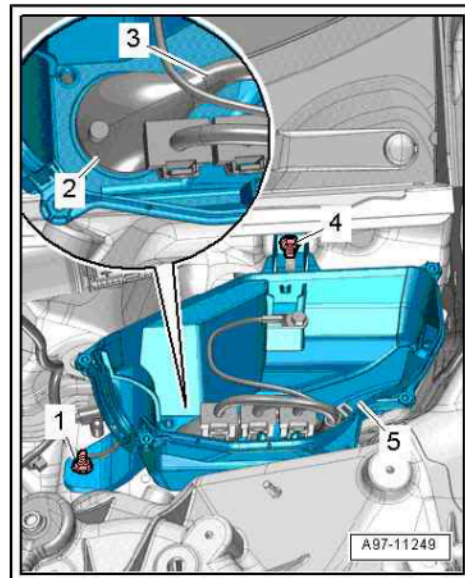


### 1.2.2 Removing and installing electronics box - vehicles with 3.0 ltr. TDI engine (EA897 generation I)

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#### Removing

- Disconnect earth cable from battery with ignition switched off ⇒ [page 12](#) .
- Remove bolts -arrows- and detach cover -1- for electronics box.
- Release fasteners -arrows-, detach relay carrier with fuse holder -1-, move clear and place on engine.







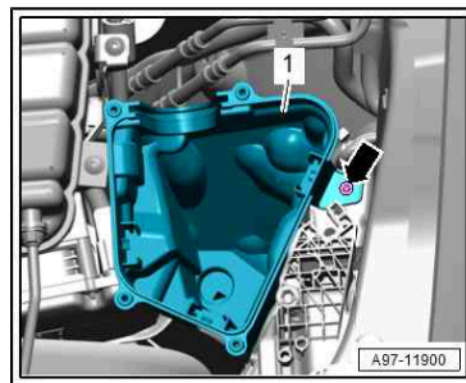
- Remove bolt -arrow-.
- Lift out electronics box -1-.

#### Installing

Installation is carried out in reverse sequence.

#### Tightening torques

- ◆ ⇒ [“1.1.2 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes, vehicles with 3.0 ltr. TDI engine, EA897 generation I”, page 403](#)



## 1.3 Removing and installing relay and fuse holder in electronics box

⇒ [“1.3.1 Removing and installing relay carrier and fuse holder in electronics box \(plenum chamber\)”, page 415](#)

⇒ [“1.3.2 Removing and installing relay carrier and fuse holder in electronics box \(plenum chamber\) - vehicles with 3.0 ltr. TDI engine \(EA897 generation I\)”, page 417](#)

⇒ [“1.3.3 Removing and installing fuse holder A SA in plenum chamber electronics box”, page 418](#)

### 1.3.1 Removing and installing relay carrier and fuse holder in electronics box (plenum chamber)

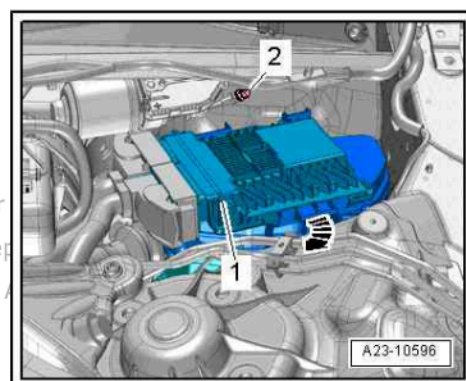
#### Removing

- Disconnect earth cable from battery with ignition switched off ⇒ [page 12](#).
- Remove filler neck for washer fluid reservoir ⇒ [page 112](#).
- Release fastener -arrow-, detach engine control unit -1- and move to one side with wiring attached.

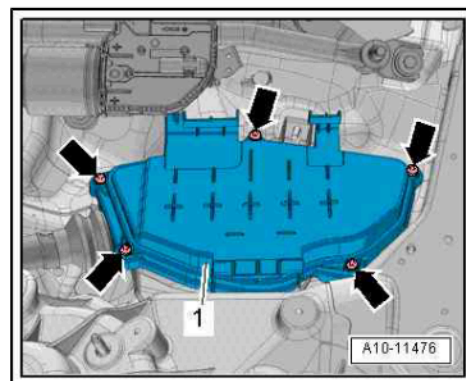


Note

Disregard -item 2-.

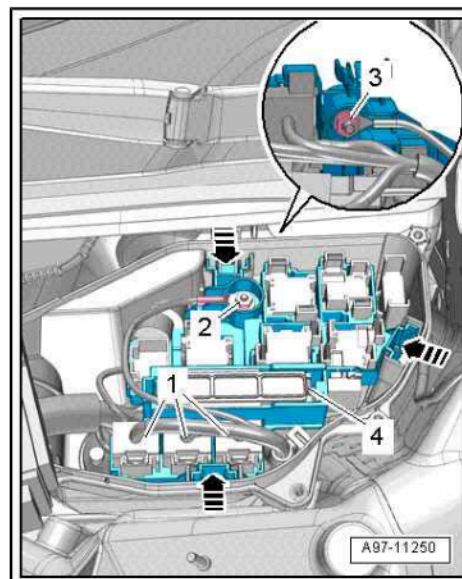


- Remove bolts -arrows- and detach cover -1- for electronics box (plenum chamber).





- Unplug electrical connectors -1- and remove nut -2- for electrical wiring.
- Release fasteners -arrows-, detach relay carrier with fuse holder -4- and place to one side.
- Remove nut -3- for electrical wiring.

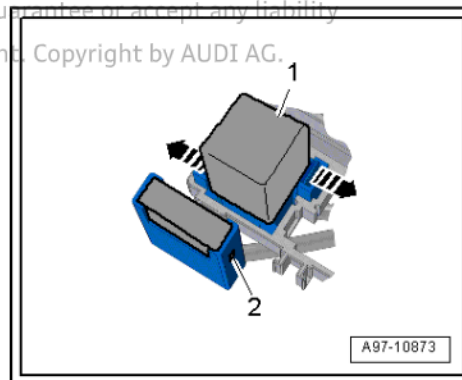
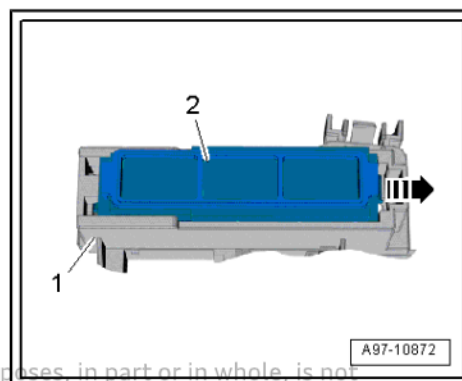


- Release retaining clip -arrow-, press out fuse holder A -item 2- towards rear and disengage from relay carrier -1-.



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- Release retaining clip and press off additional fuse holder -2-.
- Release retaining clips -arrows- and pull relay -1- and control units out of relay carriers.





- Release retaining clips -arrows- and press relay carrier -3- towards rear out of retainer -4-.
- Release retaining clip -2- and press connector contact -1- out of retainer.

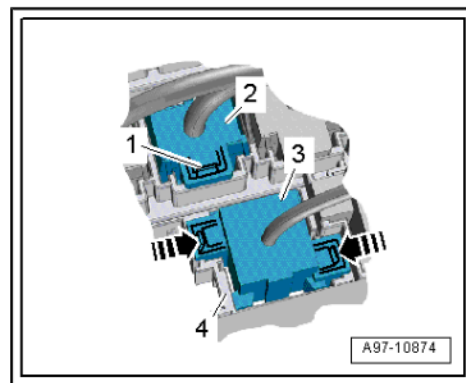
#### Installing

Installation is carried out in reverse order; note the following:

- Connect battery. Steps required: vehicles without high-voltage system ➔ [page 13](#) , vehicles with high-voltage system ➔ [page 14](#) .

#### Tightening torques

- ◆ ➔ Fig. ““Relay carrier and fuse holder in electronics box (plenum chamber) - tightening torque””, page 403
- ◆ ➔ “1.1.1 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes”, page 401



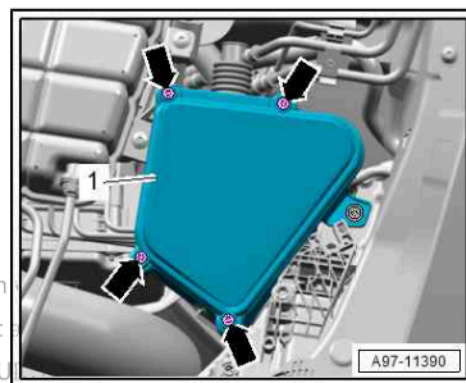
### 1.3.2 Removing and installing relay carrier and fuse holder in electronics box (plenum chamber) - vehicles with 3.0 ltr. TDI engine (EA897 generation I)

#### Removing

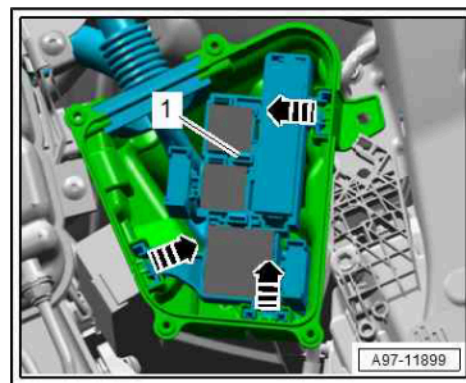
- Disconnect earth cable from battery with ignition switched off ➔ [page 12](#) .
- Remove bolts -arrows- and detach cover -1- for electronics box.



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- Release fasteners -arrows-, detach relay carrier with fuse holder -1-, move clear and place on engine.



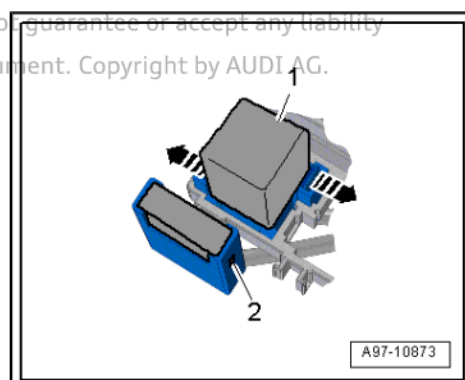
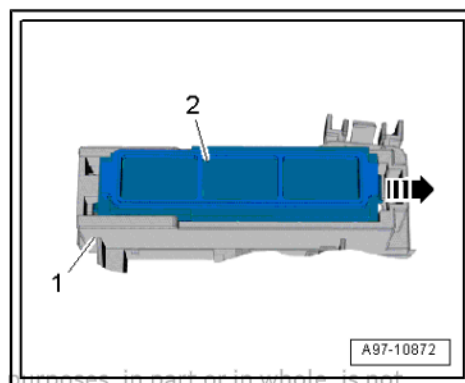


- Release retaining clip -arrow-, press out fuse holder A -item 2- towards rear and disengage from relay carrier -1-.



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- Release retaining clip and press off additional fuse holder -2-.
- Release retaining clips -arrows- and pull relay -1- and control units out of relay carriers.



- Release retaining clips -arrows- and press relay carrier -3- towards rear out of retainer -4-.
- Release retaining clip -2- and press connector contact -1- out of retainer.

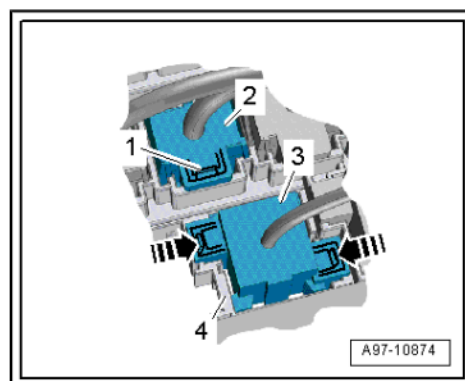
#### Installing

Installation is carried out in reverse order; note the following:

- Connect battery. Steps required ➔ [page 13](#) .

#### Tightening torques

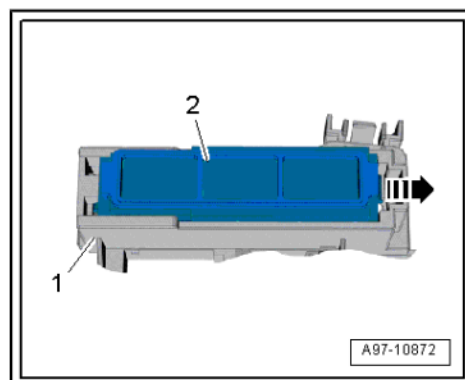
- ♦ ➔ [Fig. "Relay carrier and fuse holder in electronics box \(plenum chamber\) - tightening torque"](#) , page 403
- ♦ ➔ ["1.1.2 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes, vehicles with 3.0 ltr. TDI engine, EA897 generation I"](#) , page 403



### 1.3.3 Removing and installing fuse holder A -SA- in plenum chamber electronics box

#### Removing

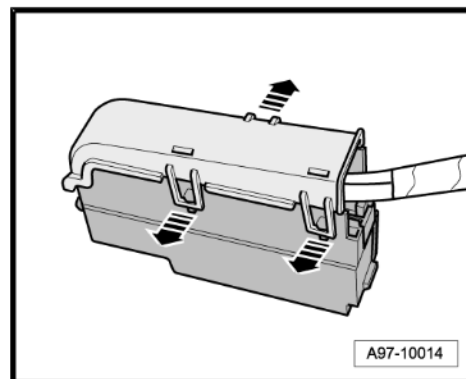
- Remove relay carrier and fuse holder and move to one side (leave relay carrier and fuse holder connected) ➔ [page 415](#) .
- Release retaining clip -arrow-, press out fuse holder A -item 2- towards rear and disengage from fuse holder -1-.







- Release captive fastener and pull it off fuse carrier.
- Remove fuses from fuse carrier.
- Release retaining clips -arrows- and detach cover for fuse carrier.



- Detach retaining strip -1- for connectors -arrow- and take connectors out of socket.

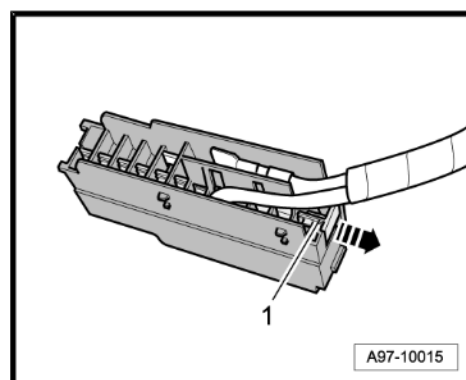


Note

*Exact assignment of contacts can be found in applicable current flow diagram ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.*

Installing

Installation is carried out in reverse sequence.



## 1.4 Removing and installing suppression filter - C24-

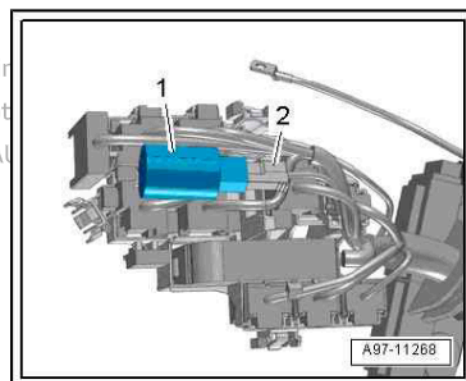
Removing

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- Remove relay carrier and fuse holder and move to one side (leave relay holders and fuse holders attached) ⇒ [page 415](#).
- Unplug electrical connector -2-.
- If fitted, cut through cable tie(s).
- Detach suppression filter -1-.

Installing

Installation is carried out in reverse sequence.







## 1.5 Removing and installing wiring junction

⇒ "1.5.1 Removing and installing terminal 30 wiring junction TV2", page 420

⇒ "1.5.2 Removing and installing terminal 30 wiring junction 2 TV22 - vehicles with high-voltage system", page 420

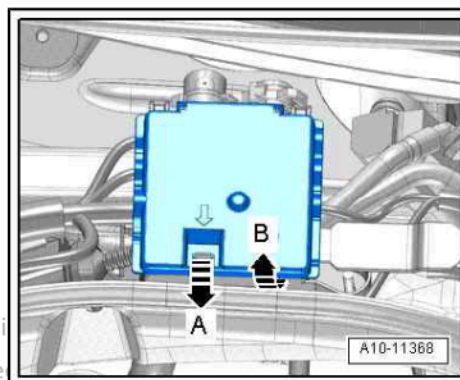
⇒ "1.5.3 Removing and installing wiring junction TV1 - vehicles with high-voltage system (hybrid)", page 421

⇒ "1.5.4 Removing and installing wiring junction TV1 - vehicles with high-voltage system (e-tron)", page 422

### 1.5.1 Removing and installing terminal 30 wiring junction - TV2-

#### Removing

- Disconnect earth cable from battery with ignition switched off ⇒ [page 12](#) .
- Remove body brace ⇒ Running gear, axles, steering; Rep. gr. 40 ; Suspension strut, upper links; Removing and installing body brace .
- Release catch -arrow A- and open cover -arrow B-.



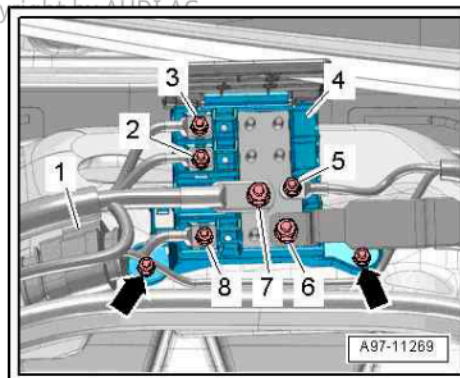
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- Unscrew electrical wiring -2, 3, 5, 6, 7, 8-.
- Unplug electrical connector -1-.
- Unscrew nuts -arrows- and detach wiring junction from plenum chamber partition panel.

#### Installing

Installation is carried out in reverse order; note the following:

- Connect battery. Steps required: vehicles without high-voltage system ⇒ [page 13](#) , vehicles with high-voltage system ⇒ [page 14](#) .



#### Tightening torques

- ♦ ⇒ Fig. "" Wiring junction for terminal 30 -TV2- - tightening torques"" , page 403

### 1.5.2 Removing and installing terminal 30 wiring junction 2 - TV22- - vehicles with high-voltage system



#### WARNING

Observe safety precautions when working on vehicles with high-voltage system ⇒ [page 1](#) .



## Removing

- Disconnect earth cable from batteries with ignition switched off ➔ [page 12](#) .
- Hybrid: Detach coolant expansion tank and move to side with coolant hose attached.
- Release retaining spring -2- and open flap -1-.
- Disconnect electrical wiring -3, 4, 5-.
- Remove nuts -arrows-.
- Remove wiring junction -6-.

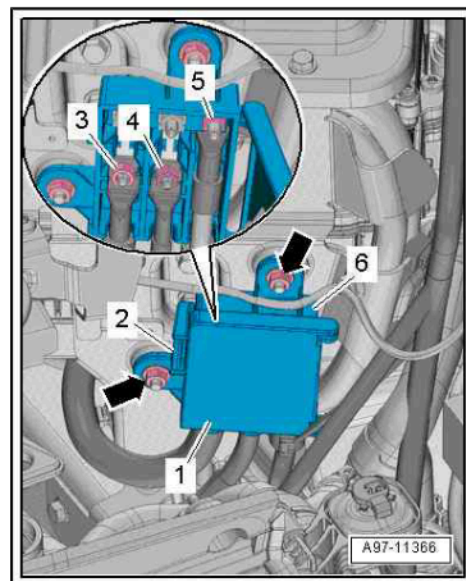
## Installing

Installation is carried out in reverse order; note the following:

- Connect battery. Steps required ➔ [page 12](#) .

## Tightening torques

- ◆ ➔ [“1.1.3 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes \(vehicles with high-voltage system\)”, page 405](#)

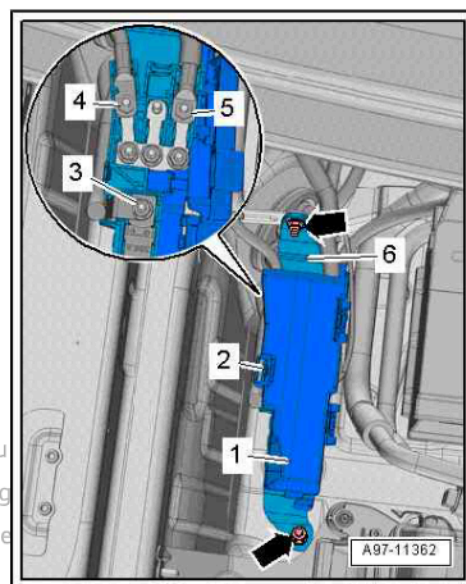


## 1.5.3 Removing and installing wiring junction - TV1- - vehicles with high-voltage system (hybrid)

### Removing

- Disconnect earth cable from battery with ignition switched off ➔ [page 13](#) .
- Remove supply air duct for drive battery ➔ Heating, air conditioning; Rep. gr. 87 ; Battery cooling module .
- Release retaining spring -2- and open flap -1- above wiring junction.
- Disconnect electrical wiring -3, 4, 5-.
- Remove nuts -arrows-.
- Move wiring junction -6- as far upwards as possible.

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- Disconnect electrical wiring -2, 3-.
- Remove positive cables -1, 4-.
- Detach wiring junction.
- If wiring junction is renewed:
- ◆ Remove vehicle starter battery switch-over relay - J580-  
⇒ [page 433](#) .
- ◆ Remove battery isolation relay - J7- ⇒ [page 434](#) .
- ◆ Remove fuse.

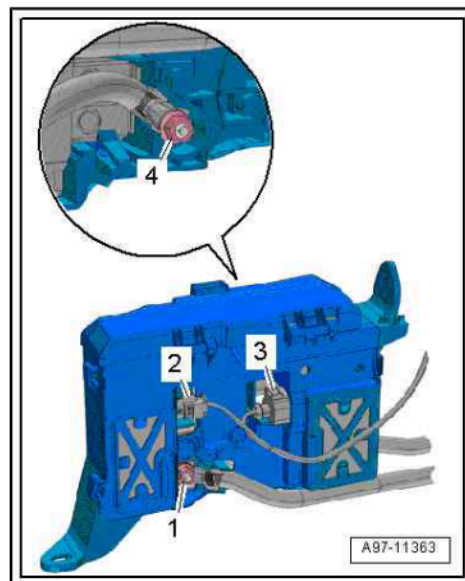
#### Installing

Installation is carried out in reverse order; note the following:

- Connect batteries. Steps required ⇒ [page 14](#) .

#### Tightening torques

- ◆ ⇒ "1.1.7 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes in luggage compartment (vehicles with high-voltage system - hybrid)", [page 411](#)



### 1.5.4 Removing and installing wiring junction - TV1- - vehicles with high-voltage system (e-tron)

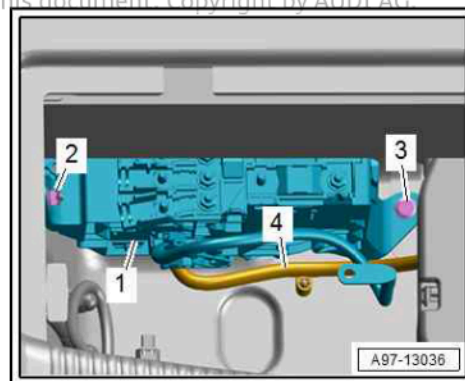
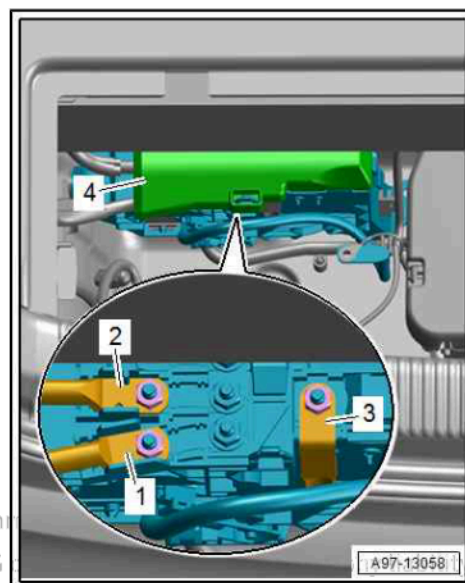
#### Removing

- Remove battery tray for second battery ⇒ [page 32](#) .
- Release retaining spring and open flap -4- above wiring junction.
- Unbolt electrical wiring -1, 2, 3- and move clear.



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- Remove nut -2- and bolt -3-.
- Move clear electrical wiring -4-.
- Detach wiring junction -1- as far as possible.





- Disconnect electrical wiring -2, 3-.
- Detach positive cable -1-.
- Detach wiring junction.
- If wiring junction is renewed:
- ◆ Remove battery isolation relay - J7- ➔ [page 434](#) .
- ◆ Remove fuse.

#### Installing

Installation is carried out in reverse order; note the following:

- Connect batteries. Steps required ➔ [page 16](#) .

#### Tightening torques

- ◆ ➔ ["1.1.8 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes in luggage compartment \(vehicles with high-voltage system - e-tron\)"](#), [page 412](#)

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## 1.6 Removing and installing fuse holders in dash panel

➔ ["1.6.1 Removing and installing fuse holder B SB with fuse carrier in dash panel \(driver's side\)"](#), [page 423](#)

➔ ["1.6.2 Removing and installing fuse carrier in dash panel \(driver's side\)"](#), [page 424](#)

➔ ["1.6.3 Removing and installing fuse holder C SC with fuse carrier in dash panel \(passenger side\)"](#), [page 425](#)

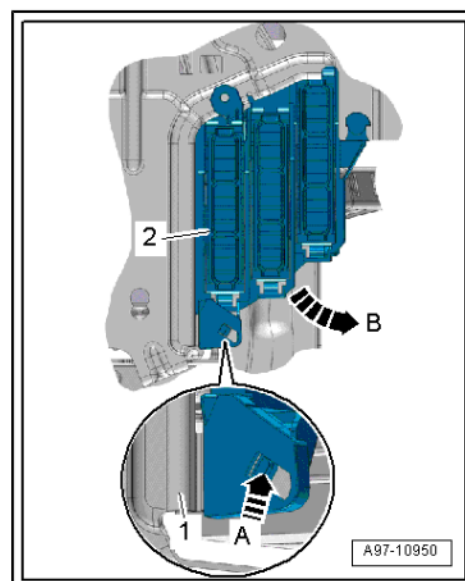
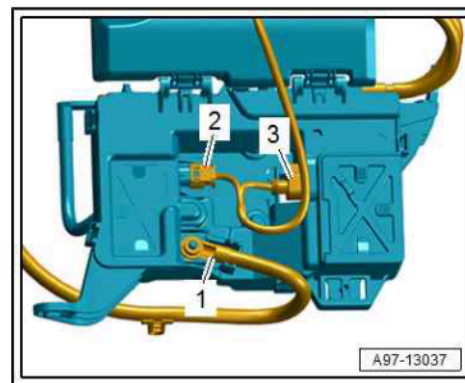
➔ ["1.6.4 Removing and installing fuse carrier in dash panel \(passenger side\)"](#), [page 425](#)

### 1.6.1 Removing and installing fuse holder B - SB- with fuse carrier in dash panel (driver's side)

#### Removing

Illustrations show left-hand drive vehicle (symmetrically opposite for right-hand drive vehicles).

- Remove dash panel cover (driver side) ➔ General body repairs, interior; Rep. gr. 68 ; Storage compartments/covers/trim panels; Removing and installing dash panel cover (driver side) .
- Release retaining clip -arrow A- and swivel out fuse holder B -item 2- on central tube -1- for dash panel -arrow B-.







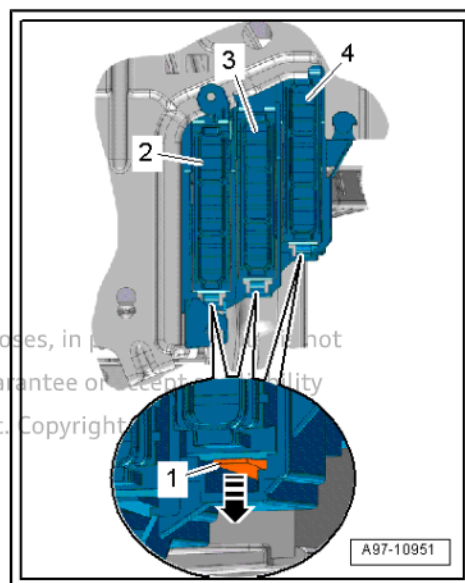
- Release retaining clip -1- -arrow- and press fuse carriers -2, 3, 4- out of fuse holder B towards rear.
- Remove fuse holder B.

#### Installing

Installation is carried out in reverse sequence.



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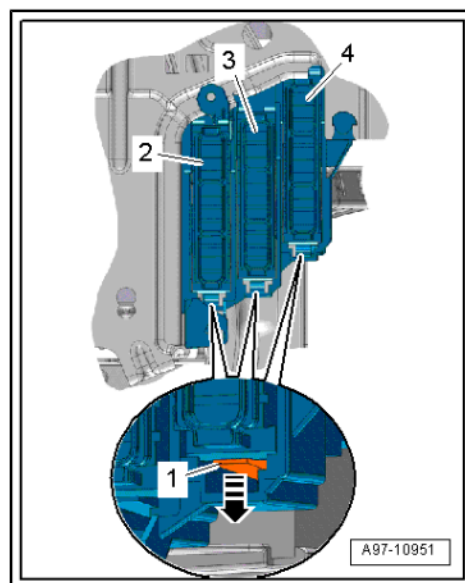


### 1.6.2 Removing and installing fuse carrier in dash panel (driver's side)

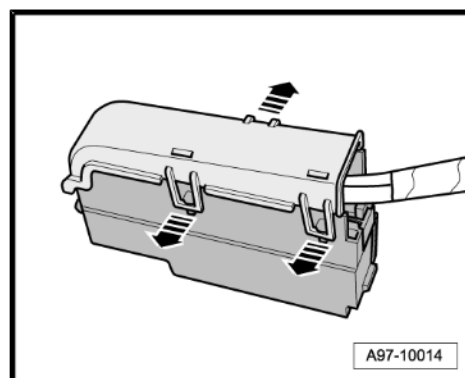
#### Removing

Illustrations show left-hand drive vehicle (symmetrically opposite for right-hand drive vehicles).

- Disconnect earth cable from battery with ignition switched off ⇒ [page 12](#) .
- Remove dash panel cover (driver side) ⇒ General body repairs, interior; Rep. gr. 68 ; Storage compartments/covers/trim panels; Removing and installing dash panel cover (driver side) .
- Release retaining clip -1- -arrow- and press fuse carriers -2, 3, 4- out of fuse holder B towards rear.



- Release captive fastener and pull it off fuse carrier.
- Remove fuses from fuse carrier.
- Release retaining clips -arrows- and detach cover for fuse carrier.







- Detach retaining strip -1- for connectors -arrow- and take connectors out of socket.



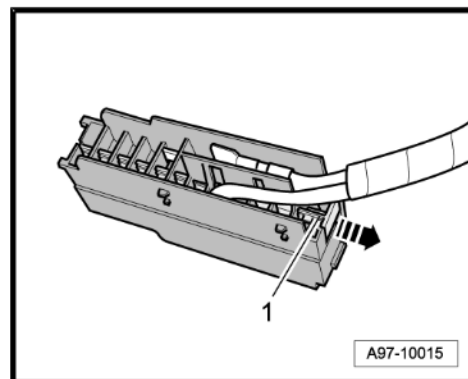
#### Note

*Exact assignment of contacts can be found in applicable current flow diagram ➔ Current flow diagrams, Electrical fault finding and Fitting locations.*

#### Installing

Installation is carried out in reverse order; note the following:

- Connect battery. Steps required: vehicles without high-voltage system ➔ [page 13](#) , vehicles with high-voltage system ➔ [page 14](#) .



### 1.6.3 Removing and installing fuse holder C - SC- with fuse carrier in dash panel (passenger side)

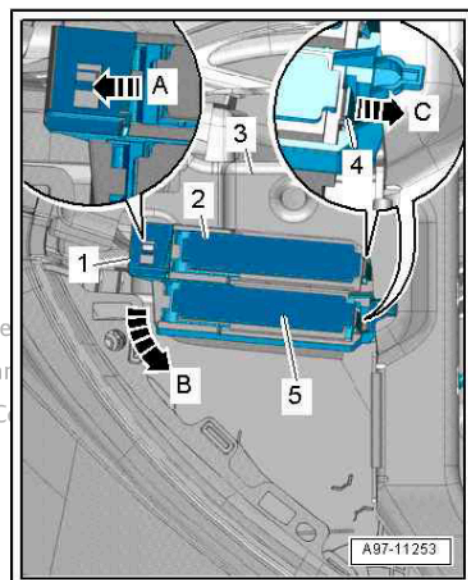
#### Removing

Illustrations show left-hand drive vehicle (symmetrically opposite for right-hand drive vehicles).

- Remove dash panel cover (side) ➔ General body repairs, interior; Rep. gr. 70 ; Dash panel; Removing and installing dash panel cover (side) .
- Release retaining clip -4- in direction of -arrow C- and press fuse carriers -2, 5- out of fuse holder C towards rear.
- Release retaining clip -arrow A- and swivel out fuse holder C -item 1- in direction of -arrow B- on central tube -3- for dash panel.
- Remove fuse holder C.

#### Installing

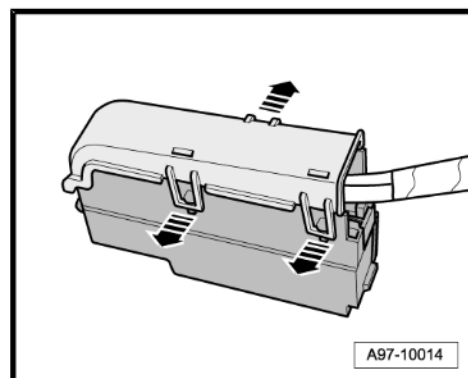
Installation is carried out in reverse sequence.



### 1.6.4 Removing and installing fuse carrier in dash panel (passenger side)

#### Removing

- Disconnect earth cable from battery with ignition switched off ➔ [page 12](#) .
- Remove fuse holder C ➔ [page 425](#) .
- Release captive fastener and pull it off fuse carrier.
- Remove fuses from fuse carrier.
- Release retaining clips -arrows- and detach cover for fuse carrier.





- Detach retaining strip -1- for connectors -arrow- and take connectors out of socket.



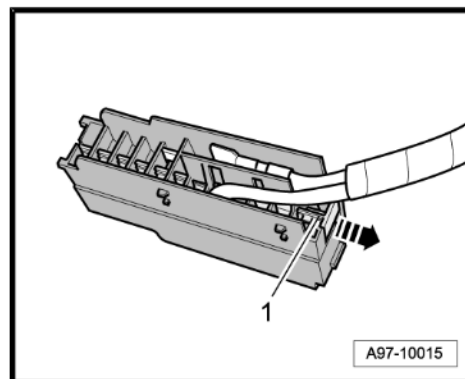
#### Note

*Exact assignment of contacts can be found in applicable current flow diagram ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.*

#### Installing

Installation is carried out in reverse order; note the following:

- Connect battery. Steps required: vehicles without high-voltage system ⇒ [page 13](#) , vehicles with high-voltage system ⇒ [page 14](#) .



## 1.7 Removing and installing relay and fuse carrier behind dash panel (driver side)

⇒ ["1.7.1 Removing and installing relay carrier underneath dash panel \(driver's side\)", page 426](#)

⇒ ["1.7.2 Removing and installing fuse holder D SD ", page 428](#)

⇒ ["1.7.3 Removing and installing mounting for relay carrier underneath dash panel \(driver's side\), onboard supply control unit J519 ", page 429](#)

### 1.7.1 Removing and installing relay carrier underneath dash panel (driver's side)

Special tools and workshop equipment required

- ◆ Protective cap for cable connector - VAS 6223/9- from fibre-optic conductor repair set - VAS 6223A-

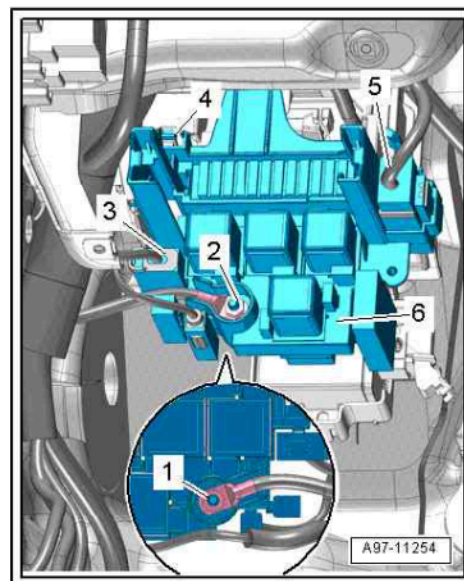




## Removing

Illustrations show left-hand drive vehicle (symmetrically opposite for right-hand drive vehicles).

- Remove footwell vent (driver side) ⇒ Heating, air conditioning; Rep. gr. 87 ; Air duct system; Removing and installing footwell vent (driver side) .
- Disconnect electrical wiring -1, 2- at relay carrier.
- Release retaining spring -4- and swivel relay carrier -6- downwards out of mounting.
- If fitted, unplug electrical connector -5-.
- Unplug connector for fibre optic cable -3- and move clear.

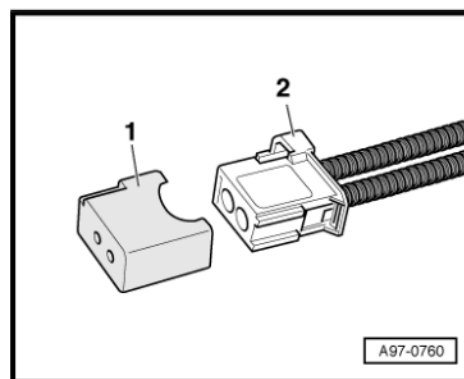


- Seal open connector plug -2- of fibre optic cable with protective cap for cable connector - VAS 6223/9- -item 1-.

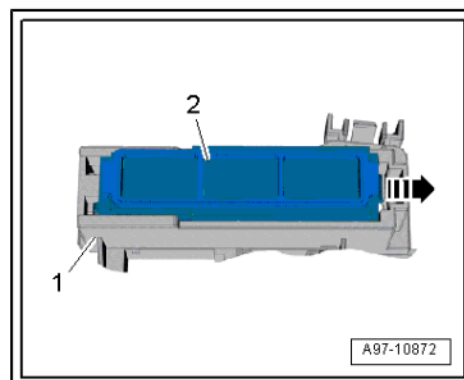


### Note

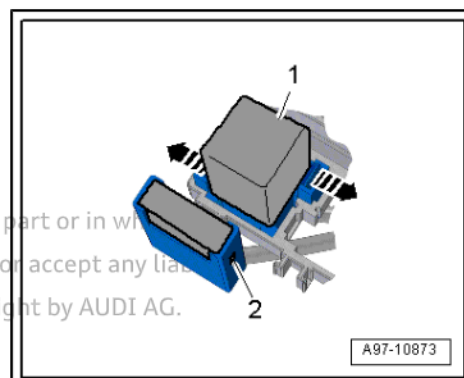
*Protective cap prevents contamination of or mechanical damage to end face of fibre optic cable which would impair light transmission.*



- Release retaining clip -arrow- and press fuse holder D -item 2- out of relay carrier -1- towards rear.



- Release retaining clip and press off additional fuse holder -2-.
- Release retaining clips -arrows- and pull relay -1- and control units out of relay carriers.



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- Release retaining clips -arrows- and pull relay carrier -2- out of relay/fuse holder -item 1- towards rear.



#### Note

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*Exact assignment of contacts can be found in applicable current flow diagram ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.*

#### Installing

Installation is carried out in reverse sequence.

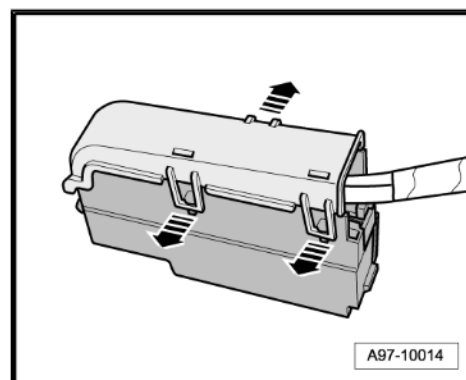
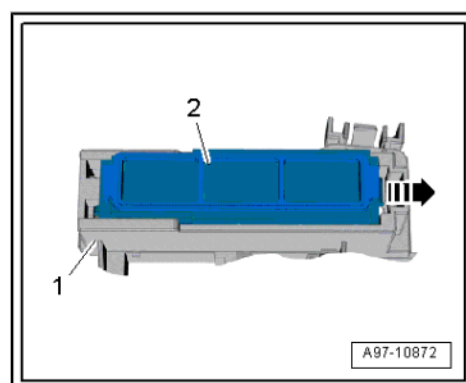
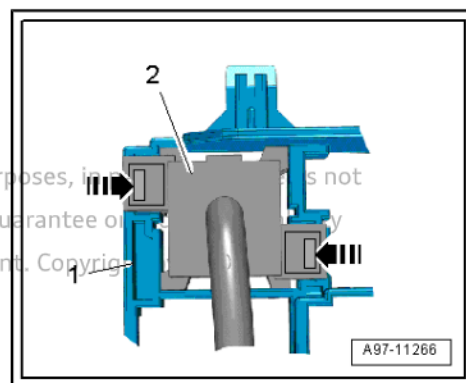
#### Tightening torques

- ♦ ⇒ Fig. ""Relay carrier underneath dash panel (driver's side) with screw connection - tightening torques"" , page 407

## 1.7.2 Removing and installing fuse holder D - SD-

### Removing

- Disconnect earth cable from battery with ignition switched off ⇒ [page 12](#) .
- Remove dash panel cover (driver side) ⇒ General body repairs, interior; Rep. gr. 68 ; Storage compartments/covers/trim panels; Removing and installing dash panel cover (driver side) .
- Release retaining clip -arrow- and press fuse holder D -item 2- out of relay carrier -1- towards rear.
- Release captive fastener and pull it off fuse carrier.
- Remove fuses from fuse carrier.
- Release retaining clips -arrows- and detach cover for fuse carrier.







- Detach retaining strip -1- for connectors -arrow- and take connectors out of socket.



**Note**

Exact assignment of contacts can be found in applicable current flow diagram ⇒ *Current flow diagrams, Electrical fault finding and Fitting locations.*

**Installing**

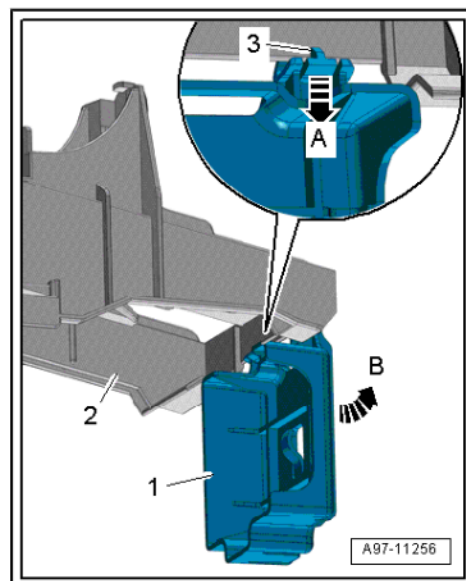
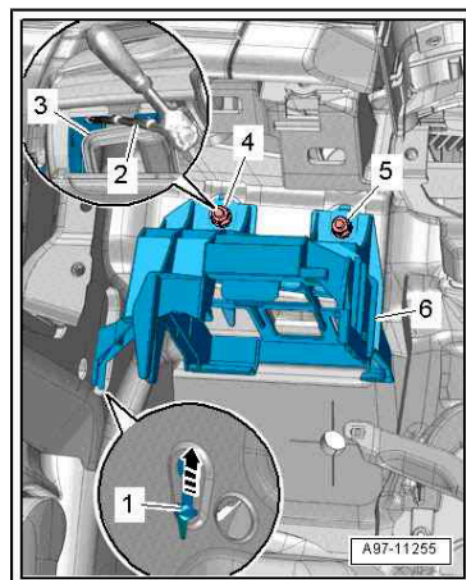
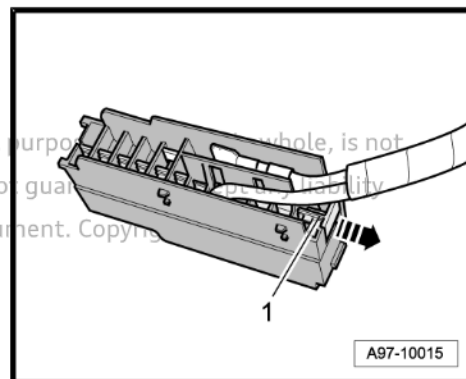
Installation is carried out in reverse order; note the following:

- Connect battery. Steps required: vehicles without high-voltage system ⇒ [page 13](#) , vehicles with high-voltage system ⇒ [page 14](#) .

### 1.7.3 Removing and installing mounting for relay carrier underneath dash panel (driver's side), onboard supply control unit - J519-

**Removing**

- Remove onboard supply control unit ⇒ [page 436](#) .
- Remove control unit for headlight range control ⇒ [page 293](#) .
- Remove dash panel vent (left-side) ⇒ General body repairs, interior; Rep. gr. 70 ; Dash panel; Removing and installing dash panel vent .
- Slide through extension -2- from socket wrench set between air duct -3- and dash panel.
- Remove nuts -4, 5-.
- Pull mounting -6- off studs.
- Push mounting towards inside of vehicle to disengage retaining pin -1- on mounting at side guide on A-pillar -arrow-.
- Release retaining tabs -3- -arrow A- and disengage mounting for control unit for headlight range control -1- from mounting -2- -arrow B-.







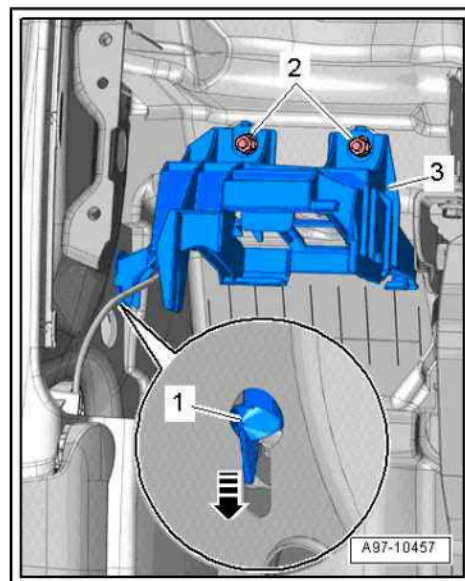
## Installing

Installation is carried out in reverse order; note the following:

- Engage retaining pin -1- on mounting -3- at side guide on A-pillar -arrow-.
- Tighten nuts -2-.

## Tightening torques

- ◆ ⇒ "1.1.4 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes (dash panel)", page 405



## 1.8 Removing and installing relay and fuse holder in luggage compartment (right-side)

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⇒ "1.8.1 Removing and installing fuse holder F-SF in luggage compartment (right-side)", page 430

⇒ "1.8.2 Removing and installing fuse carrier in luggage compartment (right-side)", page 431

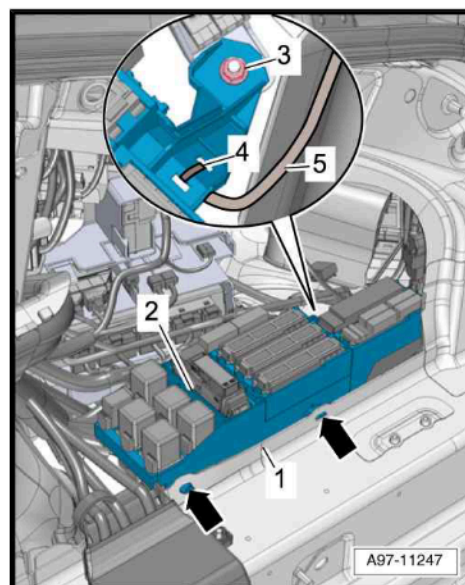
⇒ "1.8.4 Removing and installing vehicle starter battery switch-over relay J580 - hybrid", page 433

⇒ "1.8.5 Removing and installing battery isolation relay J7", page 434

### 1.8.1 Removing and installing fuse holder F - SF- in luggage compartment (right-side)

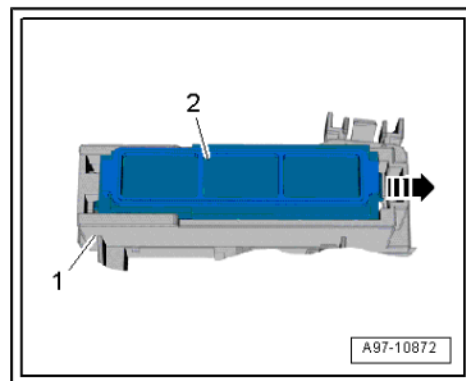
#### Removing

- Disconnect earth cable from battery with ignition switched off ⇒ [page 12](#).
- Remove luggage compartment side trim (right-side).
- Unscrew nut -3-.
- Cut through cable tie -4- to move clear wiring harness -5-.
- Guide relay and fuse holder F -item 2- out of body -1- -arrows-.





- Remove mounting for 46-pin connector - T46b- ➔ [page 442](#) .
- Release retaining clip in direction of -arrow- and press fuse carrier -2- out of relay and fuse holder F -item 1- towards rear.

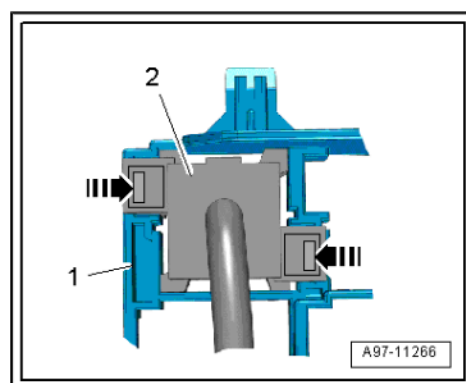


- Release retaining clips -arrows- and pull relay carrier -2- out of relay and fuse holder F -item 1- towards rear.
- Detach relay and fuse holder F.



#### Note

*Exact assignment of contacts can be found in applicable current flow diagram ➔ Current flow diagrams, Electrical fault finding and Fitting locations.*



#### Installing

Installation is carried out in reverse order; note the following:

- Connect battery. Steps required: vehicles without high-voltage system ➔ [page 13](#) , vehicles with high-voltage system ➔ [page 14](#) .

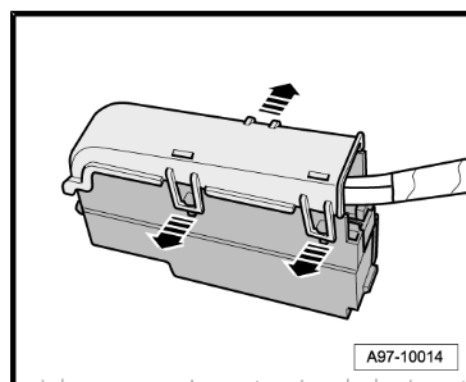
#### Tightening torques

- ◆ ➔ [“1.1.5 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes in luggage compartment \(Saloon\)”](#), [page 407](#)
- ◆ ➔ [“1.1.6 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes in luggage compartment \(Avant\)”](#), [page 409](#)

### 1.8.2 Removing and installing fuse carrier in luggage compartment (right-side)

#### Removing

- Disconnect earth cable from battery with ignition switched off ➔ [page 12](#) .
- Remove relay and fuse carrier F in luggage compartment (right-side); relay holders remain attached ➔ [page 430](#) .
- Release captive fastener and pull it off fuse carrier.
- Remove fuses from fuse carrier.
- Release retaining clips -arrows- and detach cover for fuse carrier.



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- Detach retaining strip -1- for connectors -arrow- and take connectors out of socket.



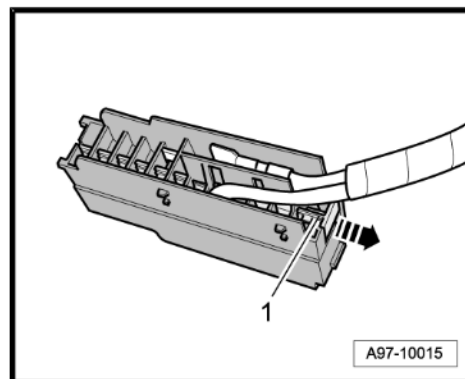
#### Note

*Exact assignment of contacts can be found in applicable current flow diagram ➔ Current flow diagrams, Electrical fault finding and Fitting locations.*

#### Installing

Installation is carried out in reverse order; note the following:

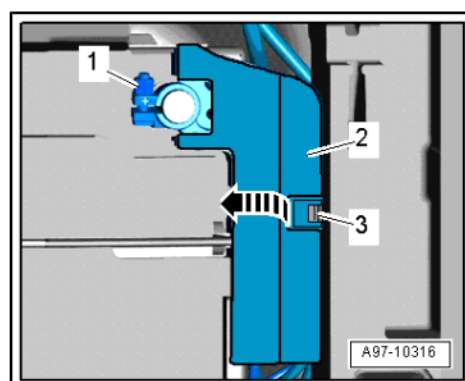
- Connect battery. Steps required: vehicles without high-voltage system ➔ [page 13](#) , vehicles with high-voltage system ➔ [page 14](#) .



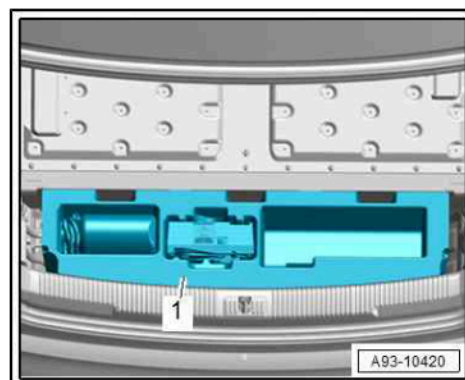
### 1.8.3 Removing and installing main fuse holder in luggage compartment

#### Removing

- Take hold of grip to lift luggage compartment floor covering and fold it towards front.
- Vehicles with high-voltage system - hybrid: Remove front exhaust air duct for drive battery ➔ Heating, air conditioning; Rep. gr. 87 ; Battery cooling module .



- e-tron: Open flap in luggage compartment floor.
- Take out tool kit -1-.
- Pull off cover over positive battery terminal.
- Slacken off nut -1- several turns and disconnect battery clamp of positive cable together with main fuse holder from battery terminal.
- Release retaining spring -3- and open cover -2- over main fuse holder -arrow-.



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- Unbolt electrical wiring -1, 5, 6, 8-.



Note

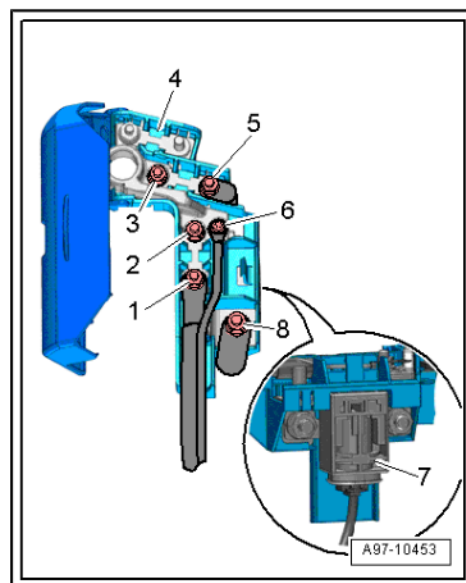
*Disregard items -2 and 3-.*

- Remove battery isolation igniter - N253- -item 7- ⇒ General body repairs, interior; Rep. gr. 69 ; Battery isolation igniter; Removing and installing battery isolation igniter .
- Take out main fuse holder -4-.



Note

*Exact assignment of contacts can be found in applicable current flow diagram ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.*



#### Installing

Installation is carried out in reverse sequence.

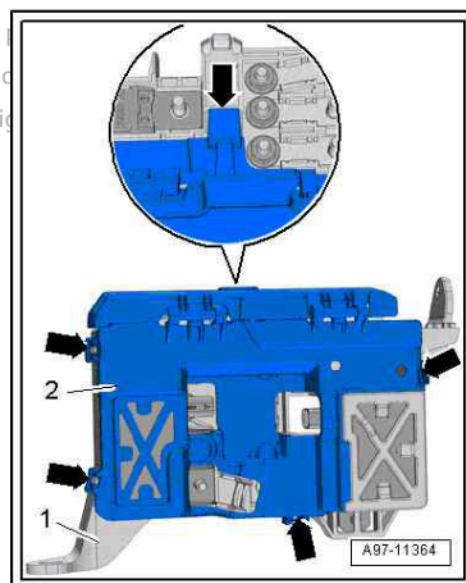
#### Tightening torques

- ♦ ⇒ Fig. ““Main fuse holder - tightening torque””, page 403

### 1.8.4 Removing and installing vehicle starter battery switch-over relay - J580- - hybrid

#### Removing

- Remove wiring junction ⇒ [page 421](#).
- Use a small screwdriver to release retaining tabs -arrows- and remove cover -2- from wiring junction -1-.



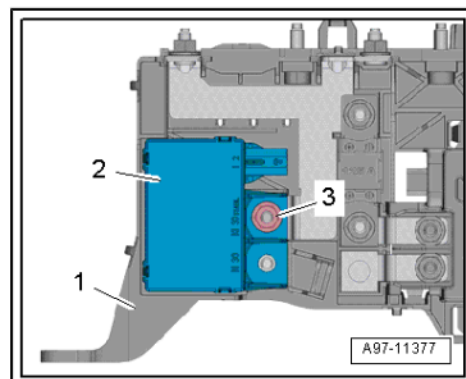
- Unscrew nut -3-.
- Take vehicle starter battery switch-over relay -2- out of wiring junction -1-.

#### Installing

Installation is carried out in reverse sequence.

#### Tightening torques

- ♦ ⇒ “1.1.7 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes in luggage compartment (vehicles with high-voltage system - hybrid)”, page 411



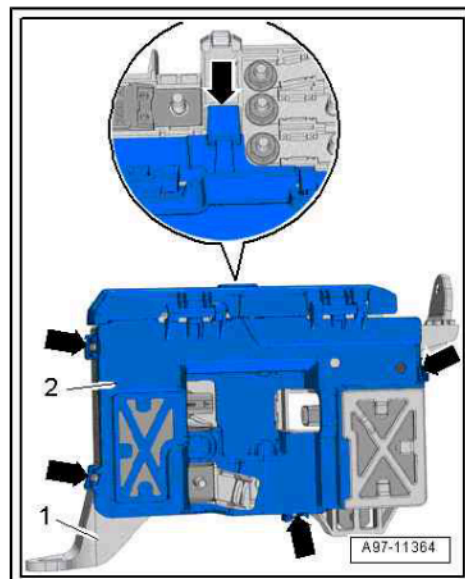




## 1.8.5 Removing and installing battery isolation relay - J7-

### Removing

- Remove wiring junction ⇒ [page 420](#) .
- Use a small screwdriver to release retaining tabs -arrows- and remove cover -2- from wiring junction -1-.



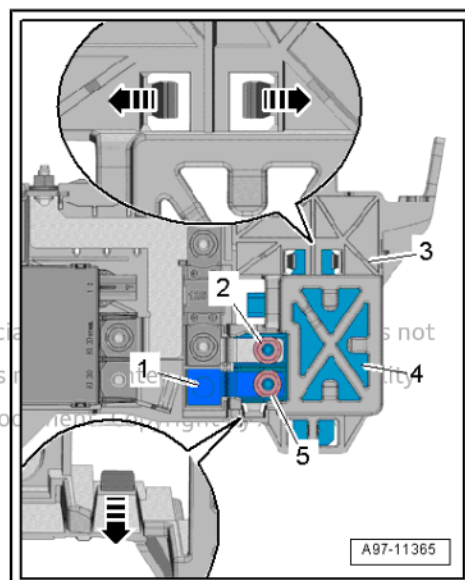
- Remove nuts -2, 5-.
- Detach connecting bar -1-.
- Release retaining tabs -arrows- and take battery isolation relay -4- out of wiring junction -3-.

### Installing

Installation is carried out in reverse sequence.

### Tightening torques

- ♦ ⇒ [“1.1 Overview of fitting locations - relay carriers, fuse carriers, electronics boxes”, page 401](#)







## 2 Control units

⇒ "2.1 Overview of fitting locations - control units", page 435

⇒ "2.2 Exploded view - data bus diagnostic interface",  
page 436

⇒ "2.3 Removing and installing onboard supply control unit J519",  
page 436

⇒ "2.4 Removing and installing garage door operation control  
unit", page 437

⇒ "2.5 Removing and installing data bus diagnostic interface J533",  
page 437

### 2.1 Overview of fitting locations - control units

Illustration shows left-hand drive vehicle (symmetrically opposite  
for right-hand drive vehicles)

1 - Garage door operation control unit - J530-

- ☐ Removing and installing  
⇒ page 437

2 - Radiator grille

3 - Nut

- ☐ 2x
- ☐ 3 Nm

4 - Mounting

- ☐ For onboard supply control unit - J519- and relay carrier
- ☐ Removing and installing  
⇒ page 429

5 - Onboard supply control unit - J519-

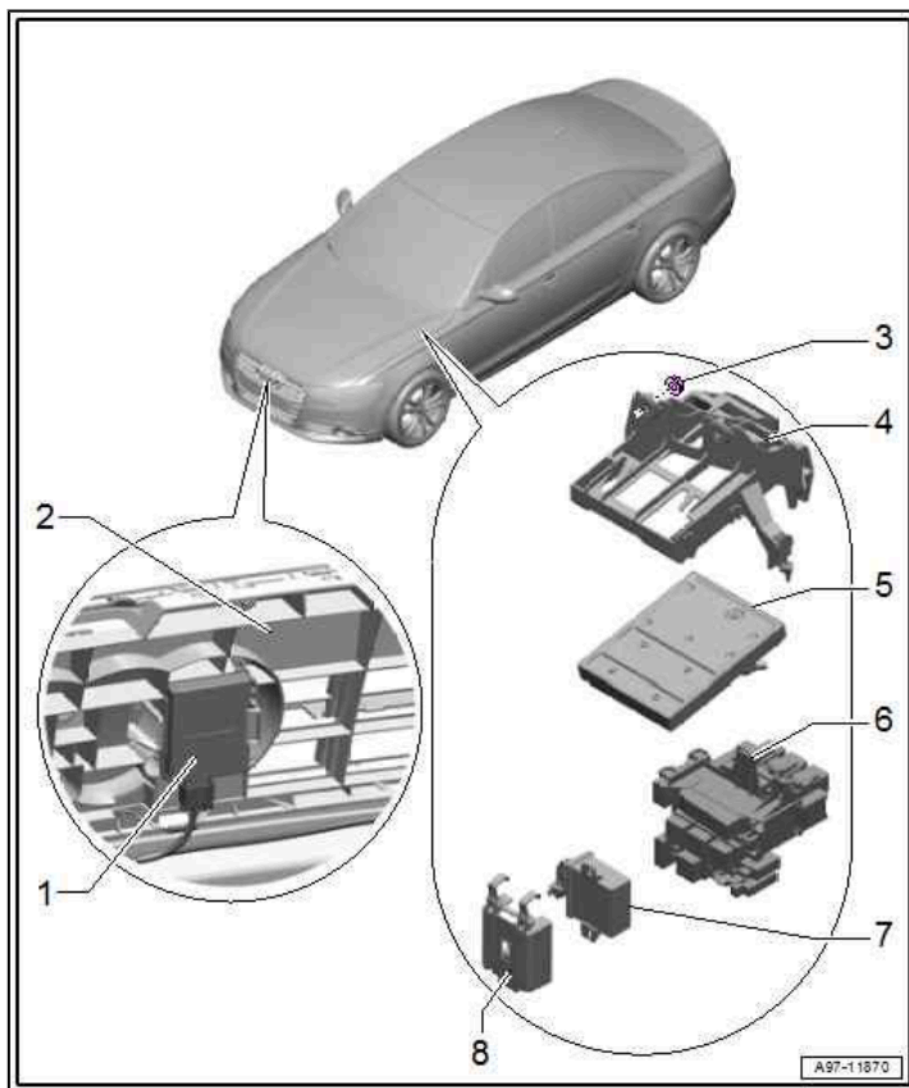
- ☐ Removing and installing  
⇒ page 436

6 - Relay carrier below dash panel (driver's side)

7 - Headlight range control unit - J431-

8 - Mounting

- ☐ For control unit for headlight range control - J431-





## 2.2 Exploded view - data bus diagnostic interface

1 - Connector for fibre optic cable

- ❑ Cover with protective cap for wiring harness connector - VAS 6223/9- .

2 - Electrical connector

- ❑ For data bus diagnostic interface - J533-

3 - Nut

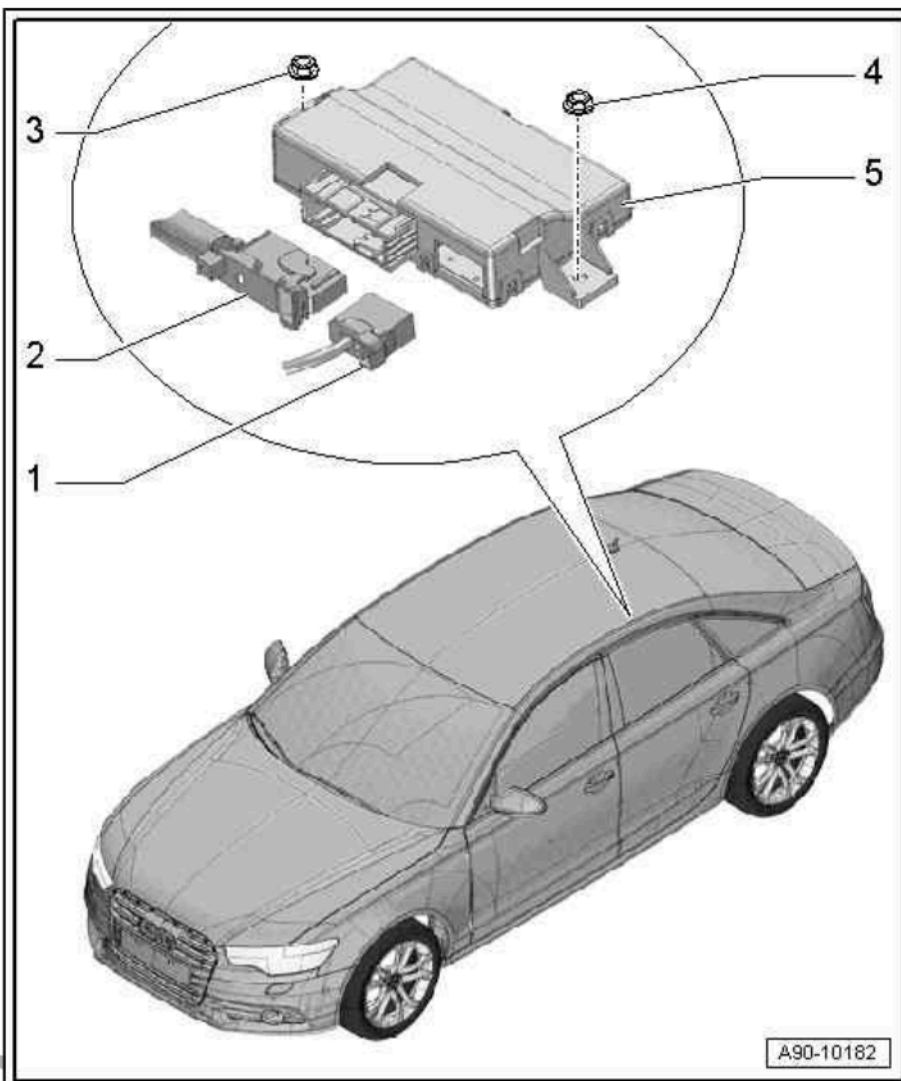
- ❑ 2 Nm

4 - Nut

- ❑ 2 Nm

5 - Data bus diagnostic interface - J533-

- ❑ Removing and installing  
⇒ [page 437](#)

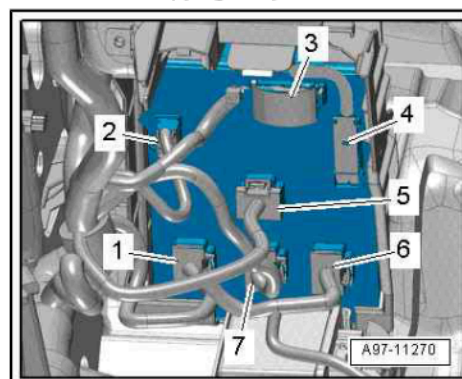


## 2.3 Removing and installing onboard supply control unit - J519-

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- If control unit is being renewed, select function "Replace" for corresponding control unit in "Guided Fault Finding" or "Guided Functions" mode ⇒ Vehicle diagnostic tester.

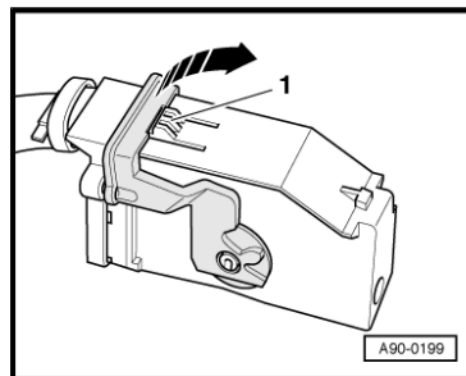
### Removing

- Disengage relay carrier underneath dash panel (driver's side) at mounting (with relay and additional fuse holders connected) ⇒ [page 426](#) .
- Unplug electrical connectors -1, 2, 5, 6, 7-.
- Unplug electrical connectors -3, 4-.





- Unplug electrical connector by pressing catch -1- and moving retaining clip in direction of -arrow-; then detach connector.

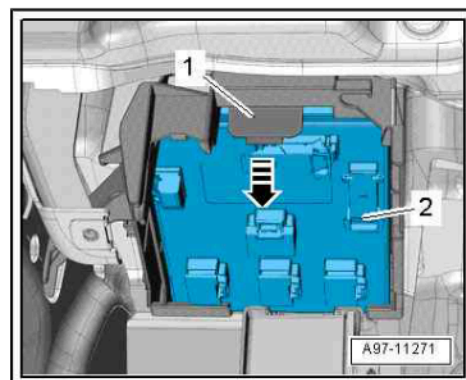


- Release retaining spring -1- and take onboard supply control unit -2- downwards out of mounting -arrow-.

#### Installing

Installation is carried out in reverse order; note the following:

- Install relay carrier underneath dash panel (driver's side)  
⇒ [page 426](#) .



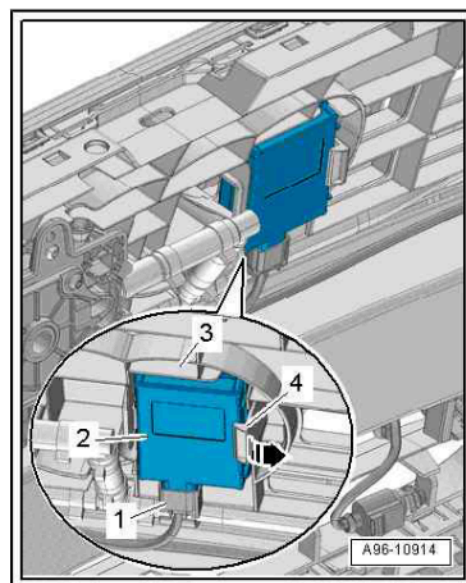
## 2.4 Removing and installing garage door operation control unit

#### Removing

- Remove lock carrier cover ⇒ General body repairs, exterior; Rep. gr. 63 ; Bumper (front); Removing and installing attachments .
- Release retaining tab -4- -arrow- and remove control unit -2- from mounting -3-.
- Unplug electrical connector -1-.

#### Installing

Installation is carried out in reverse sequence.



## 2.5 Removing and installing data bus diagnostic interface - J533-

Special tools and workshop equipment required



- ◆ Protective cap for cable connector - VAS 6223/9- from fibre-optic conductor repair set - VAS 6223A-



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- If control unit is being renewed, select "Replace" function for corresponding control unit in "Guided Fault Finding" or "Guided Functions" ⇒ Vehicle diagnostic tester.

#### Removing

- Remove rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/ individual seats .
- Fold back front section of insulating mat.
- Remove nuts -arrows- if fitted.
- Pull data bus diagnostic interface -3- off studs.
- Unplug electrical connector -5- and connector -4- for fibre optic cable.



#### Note

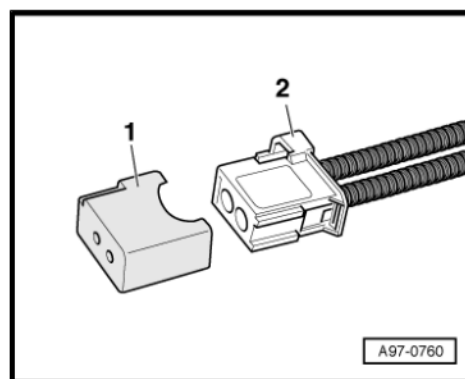
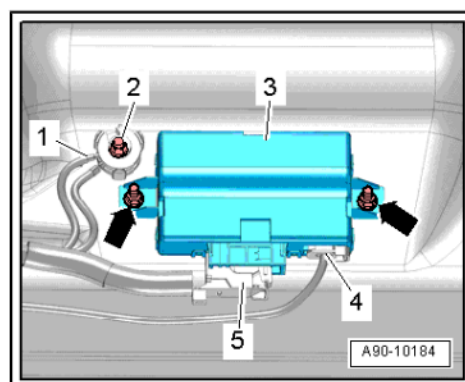
*If the earth wire -1- is above the mounting for the data bus diagnostic interface, as shown in the illustration, it must first be disconnected from the earth connection -2-.*

- Seal open connector plug -2- of fibre optic cable with protective cap for cable connector - VAS 6223/9- -item 1-.



#### Note

*Protective cap prevents contamination of or mechanical damage to end face of fibre optic cable which would impair light transmission.*





- Unplug electrical connector by releasing catch -1- and moving retaining clip in direction of -arrow-.

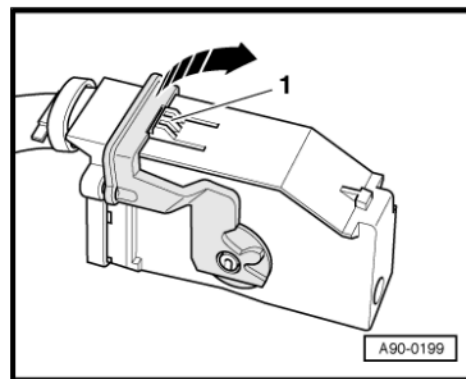
#### Installing

Installation is carried out in reverse order; note the following:

Data bus diagnostic interface - J533- must be re-encoded if it has been renewed ⇒ Vehicle diagnostic tester.

#### Tightening torques

- ◆ ⇒ ["2.2 Exploded view - data bus diagnostic interface", page 436](#)
- ◆ ⇒ Current flow diagrams, Electrical fault finding and Fitting locations



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### 3 Connectors

⇒ "3.1 Overview of fitting locations - connectors", page 440

⇒ "3.2 Removing and installing CAN separating connector", page 441

⇒ "3.3 Unplugging door disconnecter", page 442

⇒ "3.4 Removing and installing connector point at A-pillar (left-side)", page 443

⇒ "3.5 Removing and installing connector point at A-pillar (right-side)", page 444

#### 3.1 Overview of fitting locations - connectors

1 - Door disconnecter (front left)

- Unplugging  
⇒ page 442

2 - Door disconnecter (front right)

- Unplugging  
⇒ page 442

3 - Connector point at A-pillar (right-side)

- Removing and installing  
⇒ page 444

4 - Door disconnecter (rear right)

- Unplugging  
⇒ page 443

5 - 46-pin connector - T46b-

- Removing and installing  
⇒ page 441

6 - Relay and fuse holder F - SF-

7 - Door disconnecter (rear left)

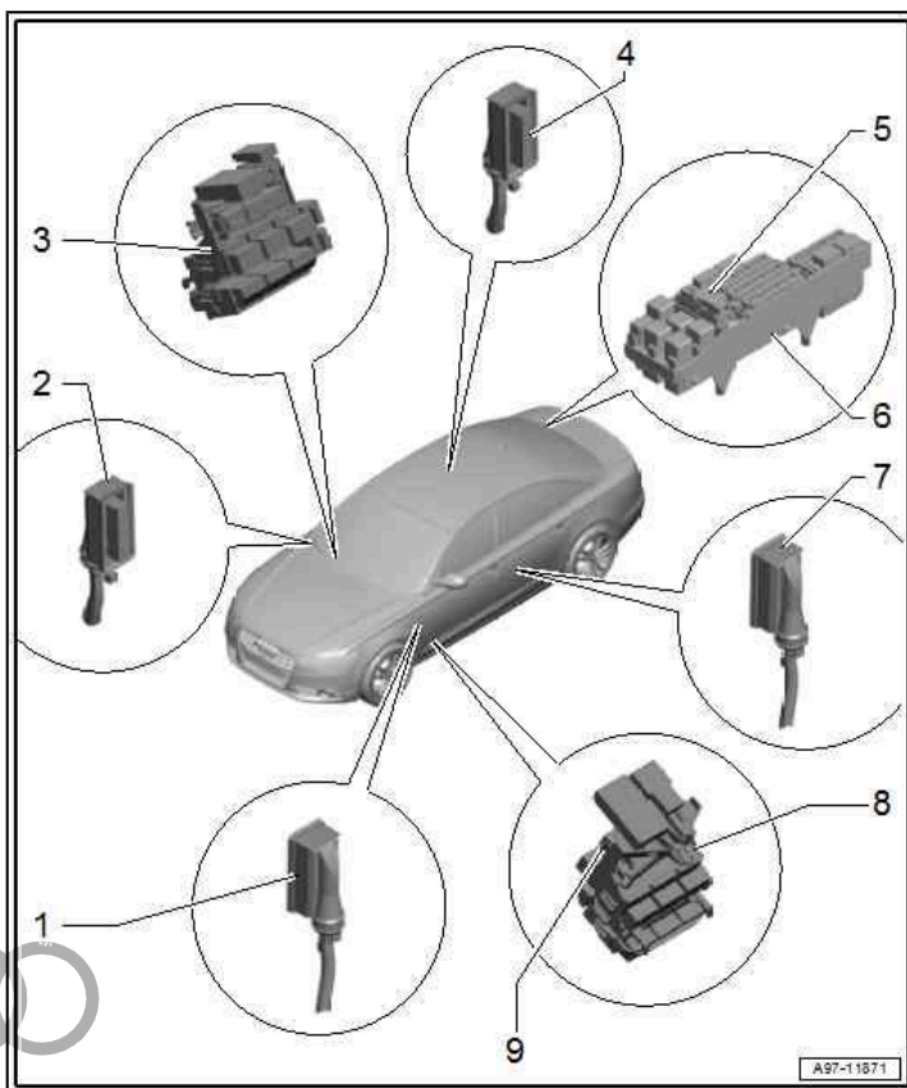
- Unplugging  
⇒ page 443

8 - Connector point at A-pillar (left-side)

- Removing and installing  
⇒ page 443

9 - 46-pin connector - T46a-

- Removing and installing  
⇒ page 441



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## 3.2 Removing and installing CAN separating connector

⇒ "3.2.1 Removing and installing CAN separating connector (left-side) - 46-pin connector T46a", page 441

⇒ "3.2.2 Removing and installing CAN separating connector (luggage compartment) - 46-pin connector T46b", page 441

⇒ "3.2.3 Removing and installing mounting for CAN separating connector", page 442

### 3.2.1 Removing and installing CAN separating connector (left-side) - 46-pin connector - T46a-

#### Removing

- Remove sill panel trim (front) ⇒ General body repairs, interior; Rep. gr. 70 ; Passenger compartment trim panels; Removing and installing sill panel trim .
- Press in retaining tabs -1- and release retaining clip -arrow-.
- Unplug electrical connector -2-.

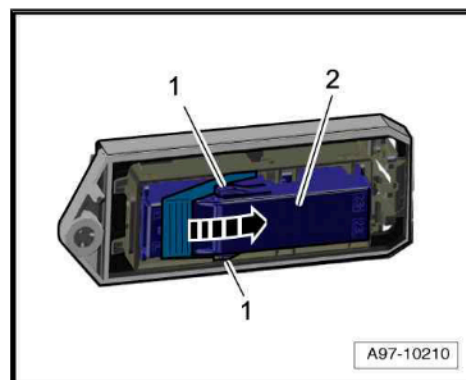


#### Note

*Exact assignment of contacts can be found in applicable current flow diagram ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.*

#### Installing

Installation is carried out in reverse sequence.



### 3.2.2 Removing and installing CAN separating connector (luggage compartment) - 46-pin connector - T46b-

#### Removing

- Remove cover for luggage compartment side trim (right-side).
- Press in retaining tabs -1- and release retaining clip -arrow-.
- Unplug electrical connector -2-.

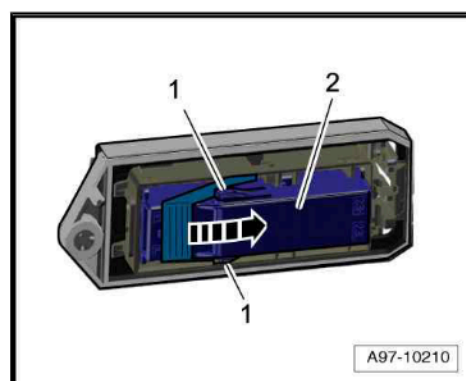


#### Note

*Exact assignment of contacts can be found in applicable current flow diagram ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.*

#### Installing

Installation is carried out in reverse sequence.

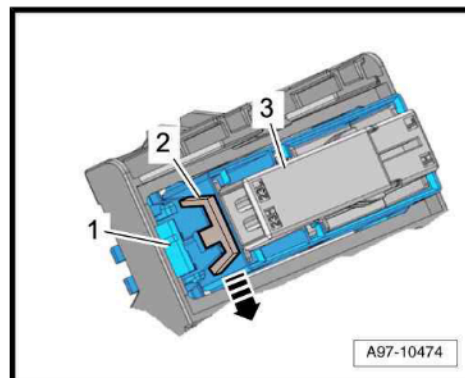




### 3.2.3 Removing and installing mounting for CAN separating connector

#### Removing

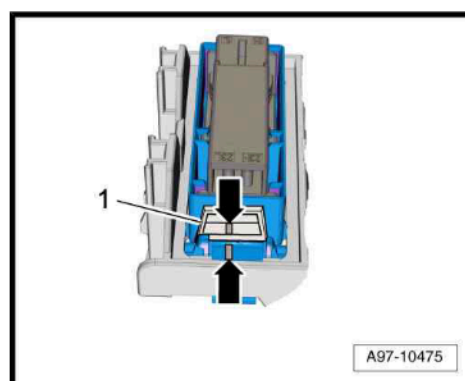
- CAN separating connector (left-side): Remove connector point at A-pillar (left-side) ⇒ [page 443](#) .
- CAN separating connector (luggage compartment): Remove relay and fuse carrier in luggage compartment (right-side) ⇒ [page 430](#) .
- Move locking lever -2- to "open" position -arrow-.
- Press release tab -1- and press out mounting -3- for connector towards rear.



#### Installing

Installation is carried out in reverse order; note the following:

- Move locking lever -1- on mounting to "closed" position.
- The two markings -arrows- must face each other.



### 3.3 Unplugging door disconnecter

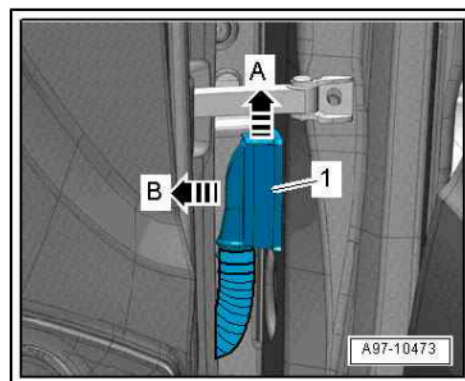
⇒ ["3.3.1 Unplugging door disconnecter \(front\)", page 442](#)

⇒ ["3.3.2 Unplugging door disconnecter \(rear\)", page 443](#)

#### 3.3.1 Unplugging door disconnecter (front)

##### Procedure

- Open door.
- Release catch in direction of -arrow A- and detach door disconnecter -1- towards the outside -arrow B-.



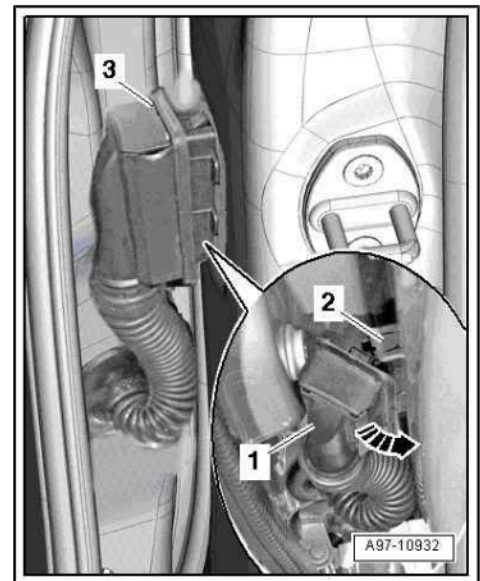
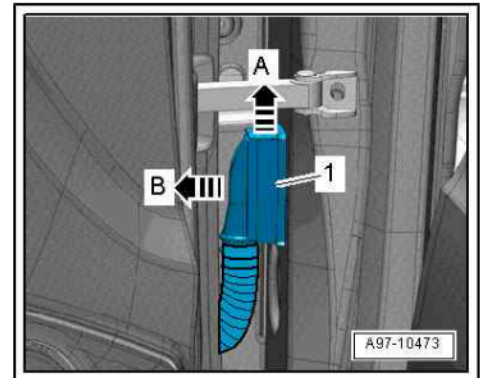
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### 3.3.2 Unplugging door disconnecter (rear)

#### Procedure

- Open front door.
- Release catch of rear door in direction of -arrow A-.
- Pull off door disconnecter -1- as far as possible outwards -arrow B-.
- Push catch -3- downwards again.
- Swivel door disconnecter -1- forwards -arrow- and detach from connection -2-.



### 3.4 Removing and installing connector point at A-pillar (left-side)

#### Removing

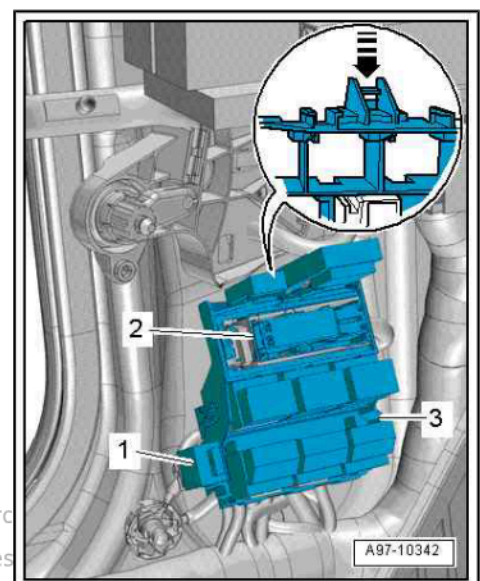
- Disconnect earth cable from battery with ignition switched off ➔ [page 12](#) .
- Remove sill panel trim (front) ➔ General body repairs, interior; Rep. gr. 70 ; Passenger compartment trim panels; Removing and installing sill panel trim .
- Push retaining clip in direction of -arrow- and disengage connector point -3- from A-pillar.
- Unclip fuse holder from connector point.
- Remove mounting -2- for 46-pin connector - T46a- ➔ [page 442](#) .



Note

Disregard -item 1-.

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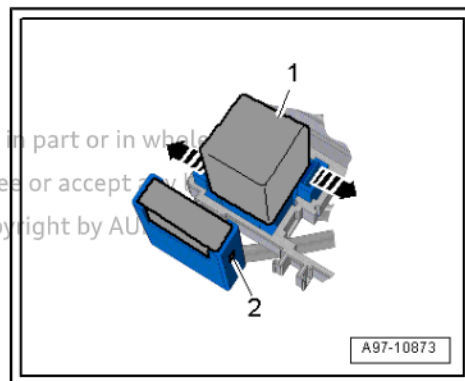






- Release retaining clip and press off additional fuse holder -2-.
- Release retaining clips -arrows- and pull relay -1- and control units out of relay carriers.

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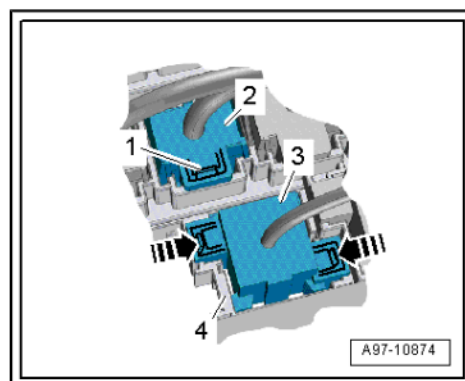


- Release retaining clips -arrows- and press relay carrier -3- towards rear out of retainer -4-.
- Release retaining clip -2- and press connector contact -1- out of retainer.



#### Note

*Exact assignment of contacts can be found in applicable current flow diagram ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.*



#### Installing

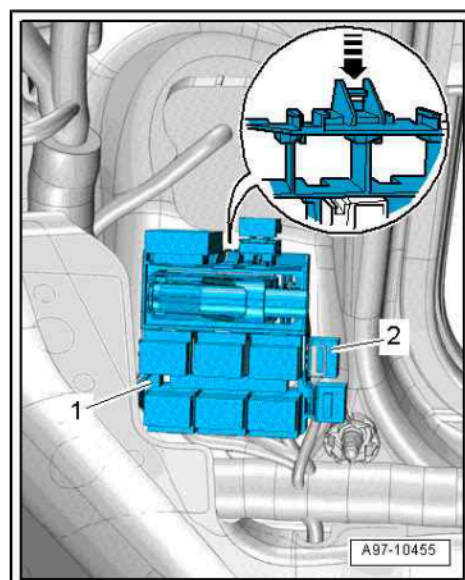
Installation is carried out in reverse order; note the following:

- Connect battery. Steps required: vehicles without high-voltage system ⇒ [page 13](#) , vehicles with high-voltage system ⇒ [page 14](#) .

### 3.5 Removing and installing connector point at A-pillar (right-side)

#### Removing

- Disconnect earth cable from battery with ignition switched off ⇒ [page 12](#) .
- Remove sill panel trim (front) ⇒ General body repairs, interior; Rep. gr. 70 ; Passenger compartment trim panels; Removing and installing sill panel trim .
- Push retaining clip in direction of -arrow- and disengage connector point -1- from A-pillar.
- Unclip fuse holder -2- from connector point.







- Release retaining clips -arrows- and pull relay carrier -2- out of connector point -item 1- towards rear.



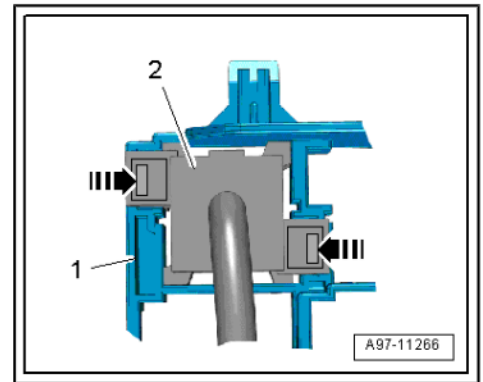
#### Note

*Exact assignment of contacts can be found in applicable current flow diagram → Current flow diagrams, Electrical fault finding and Fitting locations.*

#### Installing

Installation is carried out in reverse order; note the following:

- Connect battery. Steps required: vehicles without high-voltage system ⇒ [page 13](#) , vehicles with high-voltage system ⇒ [page 14](#) .



### 3.6 Repairing electrical wiring harnesses and electrical connectors

⇒ Electrical system; General information; Rep. gr. 97 ; Repairing wiring harnesses and connectors; Repairing wiring harnesses and ⇒ Electrical system; General information; Rep. gr. 97 ; Repairing wiring harnesses and connectors; Repairing connector housings and electrical connectors



## 4 Releasing and dismantling connector housings

⇒ Electrical system; General information; Rep. gr. 97 ; Repairing wiring harnesses and connectors; Releasing and dismantling connector housings



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## 5 Cleaning contact surfaces

⇒ Electrical system; General information; Rep. gr. 97 ; Contact  
surface cleaning set - VAS 6410-



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## 6 Repairing aerial wires

⇒ Electrical system; General information; Rep. gr. 97 ; Repairing wiring harnesses and connectors; Repairing aerial wires



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## 7 Fibre optic cables

⇒ Electrical system; General information; Rep. gr. 97 ; Repairing wiring harnesses and connectors; Repairing fibre optic cables



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## 8 Vehicle diagnostic, testing and information systems

⇒ Electrical system; General information; Rep. gr. 97 ; Vehicle diagnostic, testing and information systems



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